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# ***JPRS Report***

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## **MILITARY HISTORY JOURNAL**

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## SOVIET UNION MILITARY HISTORY JOURNAL

No 6, June 1987

[Except where indicated otherwise in the table of contents the following is a complete translation of the Russian-language monthly journal VOYENNO-ISTORICHESKIY ZHURNAL published in Moscow.]

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HIGH COMBAT READINESS OF SOVIET ARMED FORCES--MAJOR FACTOR IN DEFENSE OF SOCIALISM

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 6, Jun 87 (signed to press 25 May 87) pp 3-14

[Article, published under the heading "The Decisions of the 27th CPSU Congress in Life," by Army Gen P.G. Lushev, USSR first deputy minister of defense: "High Combat Readiness of the Soviet Armed Forces--An Important Factor in the Defense of Socialism"]

[Text] The 27th CPSU Congress provided a profound analysis of the present-day foreign political situation as well as the problems of war and peace, it approved a specific program of fighting for lasting peace, disarmament and international security, and disclosed the tendency for the growing aggressiveness of imperialism with its policy based on military strength. This can be seen particularly clearly in the present attempts of the United States and the NATO countries to shatter the existing balance of forces, to achieve superiority in their favor by developing new types of nuclear and conventional weapons and space attack weapons and ensure themselves superiority in military-technical terms.

In order to shorten the development times of new types of weapons and combat equipment and rapidly increase military potential drawing on the recent scientific and technical achievements, military economic integration among the NATO countries is continuing. Considering the development of new weapons, new concepts of employing the NATO Armed Forces are being worked out and these have a clearly expressed offensive aim. Major exercises are being conducted and in the course of them they are studying and actually working out the methods for the covert deployment of groupings in the theaters of actions as well as first strike capacity as the chief means of initiating aggression in the aim of capturing strategic initiative for achieving their political aims.

The United States and the other NATO countries in their drive for the chimeras of military superiority are deceiving themselves with the hope of developing some "absolute weapon" within the context of Star Wars and which should help them escape retaliation in a nuclear war and at the same time ensure the launching of unpunishable strikes from space. However, these are the vain hopes of the instigators of military adventures. The arms race has reached its apogee, when nuclear weapons cannot be employed either at present or

particularly in the future for achieving reasonable political aims. To start a war employing weapons of mass destruction means to resort to self-destruction.

Under these conditions, security can be achieved only by reducing the level of military confrontation, by cutting back and ultimately completely eliminating nuclear and other types of weapons of mass destruction. Military potentials should be reduced, as our party and state feel, to the limits necessary for defense and not attack. However, in contradiction to sane thinking, the United States, in possessing an enormous destructive potential, as before is preparing for global and local nuclear wars and is wagering on violence, military confrontation and the subordination of politics to the cult of force.

In assessing the real threat of a military danger from the aggressive forces of imperialism and in knowing their adventurism, the Communist Party views the defense of the socialist fatherland and the strengthening of USSR defenses and the might of the Armed Forces as a sacred duty of the Soviet People and as a most important function of the socialist state. At the 27th CPSU Congress it was stated: "The greatest possible rise in the combat readiness of the Armed Forces and the indoctrinating of Army and Navy personnel and all the Soviet people in a spirit of vigilance and a constant readiness to defend the great victories of socialism should in the future remain one of the most important tasks of the party, the state and the people."(1) This party order reflects the wisdom of Lenin's legacy, the historical experience of fighting against aggressors and the profundity of political conclusions drawn from assessing the present-day international situation.

The highest political vigilance over all the history of our state has been a means of defending the interests of the Soviet people and a weapon in the struggle against class enemies. From the very outset of its existence, the Soviet nation has constantly been threatened by a military danger from the most aggressive imperialist states. After the victory of the socialist revolution in Russia, V.I. Lenin concluded that "the reciprocal relations of peoples and the entire world system of states are determined by the struggle of a small group of imperialist nations against the Soviet movement and Soviet states headed by Soviet Russia."(2) He wrote that "the person who forgets the danger constantly threatening us which will not disappear as long as world imperialism exists, the person who forgets this forgets our labor republic."(3)

Lenin's ideas on the defense of the socialist fatherland comprised and do comprise the foundation of the policy of the Communist Party and the Soviet state in the area of military organizational development. In conducting a policy of peace, the party always in a spirit of Lenin's legacy carried out a broad range of major defensive tasks related to the establishing and developing of a technical base for the Army and Navy and to the elaboration of the problems of military science and art and thorough troop training. It has unswervingly indoctrinated the Soviet people and their military in a spirit of high vigilance and has seen to it that they were able to spot the intrigues of our enemies and resist their subversive activities.

As World War II confirmed, the aggressive forces of imperialism usually employ the most dangerous method of initiating a war, that is, a surprise, treacherous attack by strong, previously prepared forces. For imperialism an invasion of others' territory without a declaration of war has become a sort of standard and a stereotype of the piracy of the aggressors. By a surprise attack reinforced with propaganda lies and disinformation, the invader confronted all peoples, including its own, with the fact of an already commenced war and the peoples were drawn into the maelstrom of bloody events beyond their control and were deprived of the opportunity to actively resist the aggressor from within. It is well known what difficult, unequal conditions befell the states and their armies which were subjected to a surprise attack by large masses of aviation, tanks, artillery, motorized infantry and airborne troops. Under these conditions the aggressor possessed the initiative and subsequently it was extremely difficult to wrest this away. One can imagine how dangerous a surprise attack would be in our days.

The harsh lesson of the last war teaches that until the war has commenced, it is essential to actively fight against it, considering here that the aggressor can at any time unexpectedly commence combat actions. For this reason, in the aim of thwarting the enemy's plans and in the interests of the combat readiness of the Armed Forces the demand to master all procedures, methods and means of combat which can be employed by the enemy is one of the important ones in the system of field, air and sea skills, in the operational, combat and political training of the personnel and its troop indoctrination. V.I. Lenin had precisely this in mind in pointing out that "an army behaves irrationally or even criminally when it does not prepare to master all types of weapons, all means and methods of combat which the enemy has or can have."(4)

In this context the historical experience of the party's work merits particular attention in raising the level of awareness and political vigilance among the Soviet people during the prewar period and in the years of the Great Patriotic War. In the aim of political orientation of the troops in the event of aggression, the party Central Committee pointed to the necessity of careful and painstaking indoctrination of the men in a readiness for tenacious fighting against a strong enemy. This work was carried out. For this reason the personnel knew well that if tomorrow the enemy were to attack, it had to be properly met. Each commander and fighter realized well that it was essential to always be on guard so that in the event of necessity the invader could be dealt a crushing rebuff. The slogan "The Defense of the Fatherland Is the Sacred Duty of Each Citizen of the Soviet Union" during the prewar period was brought to the heart and mind of every soldier by Lenin's party. The party was able to indoctrinate in the defenders of the motherland high political awareness, hate for the aggressor, and the essential moral-combat qualities which on the battlefields of the Great Patriotic War ensured unbending steadfastness and unprecedented heroism.

At present, it is essential to remember that while previously it took several months or weeks for the aggressor to bring its forces to full readiness for attack, under present-day conditions this period can be just hours or even minutes, as the United States and the other NATO countries possess powerful nuclear and conventional weapons and enormous coalition invasion forces

capable of carrying out a surprise attack directly from their permanent positions or from areas of exercises being conducted.

History reminds us that we must be constantly armed and ready to repel the enemy at all times, daily and on all levels and this requires a further rise in vigilance and intense combat training. Under present-day conditions a disruption of the balance of forces and a delay in taking countermeasures to the aggressor's hostile preparatory actions are inadmissible. With the growing threat of attack, it is essential to respond immediately to the actions undertaken by the enemy to prepare for a strike, to warn ahead of time our troops about the impending danger, and give them specific tasks so that the personnel under no circumstances will be caught unaware and in any situation act in the most organized manner. As the experience of the last war showed, the inability of certain armies to prevent enemy surprise attacks was explained chiefly by the fact that reconnaissance was conducted poorly in them, the system for bringing the troops to combat readiness had not been thought out, communications were undependable, orders were given inaccurately and late, the actions of the cover echelon were marked by slowness and there were other mistakes.

In endeavoring to prevent a new war, it is essential to thwart the intrigues of the imperialist intelligence services, to unmask their role in the preparation of military conflicts, to be able to identify the subversive work of enemy agents, to prevent the leaking of secret information and strictly keep state and military secrets. At present, in intensifying their intelligence and subversive activities of their special services against the USSR and the other socialist countries, the United States and its NATO allies are endeavoring to give this a total nature. For these purposes they are employing diverse methods and are widely employing the most recent scientific and technical achievements and the entire arsenal of "secret warfare" in their espionage work. One of the main forms of subversive activity against the Soviet Union under present-day conditions is ideological subversion the scale of which is constantly increasing and spreading to all countries of the socialist commonwealth.

Under present-day conditions, for the Soviet Armed Forces the highest form of showing vigilance is high combat readiness as the chief indicator of the quality state of the troops and naval forces and the crucial factor restraining the enemies of peace from military provocations, adventures and the unleashing of a new war. Constant combat readiness is an objective necessity, a sacred law and the first demand of all our military policy. For this reason, the most important aim in the organizational development of the Armed Forces is to be at such a level of combat readiness which would make it possible to ensure a steady balance of forces and whereby at any moment it would be possible to repel aggression, from wherever it might derive. M.S. Gorbachev at the 27th CPSU Congress pointed out that at present "Soviet defense might is maintained on a level which makes it possible to securely defend the peaceful labor and peaceful life of the Soviet people."(5) It must never be forgotten that the secure defense of the Soviet state frontiers, the interests of the USSR and the peaceful, creative labor of the Soviet people is among the most important functions of the socialist state and its Armed Forces.

In having statewide and particular significance, combat readiness is a strategic category and involves all aspects of troop activities. It represents the result of enormous effort and material outlays by the people on the technical equipping and support of the Army and Navy. The degree of combat readiness depends upon the levels of providing the units and formations with personnel, equipment and weapons, upon the supply of materiel, upon the state of field, air and sea skills, the art and maturity of the command personnel, the moral-political and psychological strength and physical training of the troops and the state of discipline and order.

It is important to consider the possible method of initiating a war by the probable enemy. It is essential to point out that each element comprising combat readiness in its own way is important, they all are closely interrelated and represent a single complex in which there should be no weak link nor unconsidered "detail." For this reason, the tasks of increasing combat readiness must be approached comprehensively. They must be carried out according to a single plan, considering the real conditions and material possibilities, on a basis of scientific analysis and the fullest consideration of the development prospects of combat equipment, changes in the organizational structure of the troops, the methods of their combat employment as well as the training of the personnel. Here the main thing is the personnel which has perfectly mastered the weapons, combat equipment and shows a conscientious attitude toward carrying out military duty.

In order to achieve high combat readiness, it is essential to have steady, daily planned work, intense training of the personnel, and a constant improvement in the activities of the commanders, the staffs, the political bodies and party organizations which should do everything possible so that each formation, unit and subunit is promptly brought to the highest readiness to carry out the set task. For this it is essential to constantly adjust the planning documents, to carefully plan all measures and repeatedly work them out in detail with the personnel. Only having made certain that each man is capable of performing his duties correctly and within the established time can one begin training on a level of the subunit, unit and then the formation. In this stage, it is advisable to conduct the training successively, in working through individual elements. In the course of exercises and inspections, it is essential to work through completely the questions of bringing the command bodies and troops to combat readiness.

It is essential to point out that, as inspections on the spot have shown, individual officers have not fully mastered the skills of the actual fulfillment of measures to maintain combat readiness, the subunits do not always keep within the established times, the actions provided for by the plan are not fulfilled effectively, little attention is paid to bringing the weapons and equipment to a combat state, and there are instances when in setting out to the field at full strength, combat readiness plans are not worked out. Frequently supervision by senior chiefs is of a superficial and formal nature.

In this context it is important to more carefully prepare the commanders and staffs of all levels for organized actions relating to the combat readiness

plans under any conditions, even the most unexpected, and shorten as much as possible the time required to bring the troops to a combat state. It is advisable to continue the practice of surprise inspections of the actual readiness of the units and formations, to increase the demands made upon staff work, and see to it that in the course of such inspections and in conducting combat training alerts all proper measures are fully worked out. It is essential to steadily seek out ways for further improving alert duty and for increasing its effectiveness.

One of the important indicators for troop combat readiness, as is known, is the reliability and quality of command. Firm, continuous, flexible and secure command, in ensuring the prompt and complete preparation of the troops for combat and the effective employment of the forces in the course of combat, is the first indicator for the maturity of leadership. It determines the steadfastness of the troops with abrupt and unexpected complications in the situation.

The readiness of the command systems and facilities, in line with the growing importance of the time factor, should fully conform to the entire system of combat readiness of the formations and units. For this purpose, experienced commanders promptly and completely man the headquarters bodies with intelligent, well-trained officers, they organize work at the staff on a scientific basis, in the exercises they train subordinates in skillfully locating and carefully camouflaging control posts and ensuring the survivability of the communications system, its resistance to jamming and intelligence security, and conduct drills for the staff officers in the field for carrying out functional duties and studying the command equipment. The staffs should pay particular attention to preparing the signals subunits and units for working under the conditions of a complex radioelectronic situation and to protecting transmitting radio equipment and communications centers against homing weapons.

Field, air and sea skills under peacetime conditions are a chief means for increasing combat readiness of the troops and naval forces and the most effective method for preparing them for coming battles. This includes the range of skills of the personnel, the training and teamwork of the subunits, units, formations and headquarters bodies and their capacity to carry out efficient combat actions employing all modern weapons against a strong enemy and under diverse situational conditions and carry out the tasks in accord with their purpose. The achieving of high combat skills is a difficult task requiring enormous daily efforts by the commanders, staffs, political bodies and all troop personnel. This is related to the changes in military affairs, to the carrying out of combat under conditions where the aggressor employs high-precision weapons, the organizing of the defense of the troops against reconnaissance-attack and fire systems and the combating of them.

In order to truly ready the troops to carry out complex tasks, the commanders and staffs should bring the training process as close as possible to the conditions of real combat, they should teach what is required in a war, gain skills in the effective conduct of combat, to have full belief in the might of our weapons and develop in themselves an unbendable will to defeat the aggressor. In organizing the training and indoctrination of the personnel,

they should see the entire process in all its detail, the entire "technology" of training both the individual soldiers as well as entire units and formations. Here it is essential to bear in mind that under present-day conditions, the amount of knowledge needed by the personnel increases proportionately to the development and complicating of equipment and weapons. This demands that the officers continuously improve their knowledge and professional skills and seek out new forms and methods of training so that the large amount of knowledge is given to the trainees in a short period of time. For achieving this the commanders and staff officers must be able to skillfully transmit their knowledge and experience to subordinates and persuade them that the procedures and actions being mastered must be precisely executed. They must correctly and confidently demonstrate both the individual elements as well as all actions as a whole and demand the same from the trainees. It is important to patiently and steadily drill the men and eliminate the mistakes and shortcomings committed by them. Only in this manner is it possible to actively carry out training and combat tasks.

Practice shows that if the officers have poorly mastered the training and indoctrination methods, if the exercises conducted by them are boring, monotonous and routine, and if they are unable to arouse an interest or desire for active understanding and thus gaining of practical skills, the exercises conducted by them produce little to increase the combat readiness of the units or ships.

Work is presently being carried out precisely in this area to improve the forms and methods of organizing and conducting exercises and training, and the training questions are being worked through considering the capabilities of both our own troops as well as the probable enemy troops and the development prospects of combat equipment and military art. It is important that in the course of combat training, the trainees constantly encounter active enemy resistance and that they continue until the enemy has been truly reconnoitered and neutralized by fire.

The exercises and drills will achieve their aim only when combat in them will be prepared for fully, that is, they will work through all its elements including: thrust, fire, maneuver, as well as carry out careful preparation of the commanders, staffs and all the personnel for combat. For this it is essential to establish a situation which would put the trainees in crisis situations and demand from them the manifesting of creativity, initiative, resourcefulness, tenacity and strategem, as well as the taking of bold and sound decisions. It is essential to see to it that each officer being trained endeavors to impose his will on the enemy, to seize initiative by bold, daring and covert actions as well as carefully feel the pulse of battle, promptly determine its crucial moments and constantly maintain high combat activeness of the troops.

It is essential to promptly boost the efforts of the troops by committing second echelons and reserves to battle, as well as by shifting forces from secondary sectors so as to provide superiority over the enemy on the crucial sectors and maintain a high rate of advance. A rapid offensive is an essential condition for anticipating the arrival of the enemy on important lines.

Thus, the very training process should be aimed at instilling in the personnel the firm skills of competent actions in the field, the ability of the commander to thoroughly understand the situation and clearly set tasks for defeating the enemy with the employment of new weapons, as well as achieve coordinated actions of the diverse forces.

It is important to conduct the exercises in such a manner that each battle has its particular features. However, there have been instances when the players showed an uncreative approach to assessing the situation, they did not analyze the strong and weak points of the enemy, but related the obtained initial data and this led to a superficial approach and a routine decision in which there was no indication of the successive piecemeal defeat of the enemy. Sometimes the enemy is underestimated and the balance of forces is not fully considered. In the dynamics of battle, the trainees frequently do not pay attention to covering the exposed flanks of their troops and to the prompt taking of measures for repelling possible counterstrikes.

Experienced commanders in field exercises and training see to it that the units and formations are constantly in action and endeavor to anticipate the enemy in deploying the battle formations and launching fire strikes. They give particular significance to having the troops being trained go out for exercises by surprise, upon an alert, and tactical exercises are conducted on unfamiliar terrain. Such officers see to it that the subunits and units are able to covertly carry out a march over long distances and at maximum speed, quickly deploy battle formations, rapidly attack the enemy during the day and at night and effectively employ the weapons and combat equipment in combating the nuclear weapons, tanks, artillery, helicopters, antitank and electronic equipment and high-precision weapons.

Approval must be given to the actions of those leaders of exercises and field training who demand from their trainees the most careful working out of the questions related to organizing and implementing a deep fire strike against the enemy with the full employment of the combat capabilities of aviation, artillery, tank and small-arms weapons, flamethrowers and engineer equipment. In the course of training, these leaders instruct the combined-arms commanders in the intelligent, well thought out employment of all these weapons considering their tactical-technical specifications and capabilities. Here they see to it that the fire strikes are coordinated and ensure high accuracy of the hit while the initial data for firing are prepared according to strictly established coordinates.

Under present-day conditions without well-organized, active, comprehensive and thorough reconnaissance, high combat readiness, actions to parry the enemy strikes, the successful employment of weapons and effective combat are inconceivable. A knowledge of the enemy ensures the taking of correct and rapid decisions, it increases the activeness and combat effectiveness of the formations and units and serves as a guarantee for victory. For this reason, in the course of operational and combat training the commanders, staffs and troops should learn the art of organizing and conducting reconnaissance, of creatively analyzing the intelligence data, detecting the ideas and plans of

the enemy, discover its strong and weak points and not allow themselves to be deceived by disinformation and false maneuvers.

The officers are obliged to know the organizational structure, combat equipment and operational-tactical views of the probable enemy as well as the reconnaissance features of enemy troops. It is important that the commanders of the subunits, units and formations fully master the methods of organizing and conducting reconnaissance in the course of combat and be able to shift this from some sectors and objects to others. The tasks of the senior chiefs are to do everything possible so that each conducted exercise provides the commanders, staffs and troops with maximum practice in the conduct of reconnaissance.

The commanders of the subunits, units and formations and the staff officers must always remember that poor organization of reconnaissance and cooperation and any negligence in the training of troops under the conditions of real combat is strictly punished by the enemy and leads to severe consequences. For this reason, in the course of the drills and field exercises the officers must develop a feeling of high responsibility in their decision taking and in carrying this out. There must be severe punishment for superficiality, a shallow approach, unsoundness or deception and poorly worked out questions must be repeated until they are completely mastered.

Combat readiness also depends upon the educational skills of the officers and their immediate assistants, the sergeants, who play a major role in ensuring the readiness of the crews, teams, squads and platoons for combat. The sergeants must train the soldiers, help them learn the weapons, regulations and instructions, they must prepare outstanding men in training, class specialists, and masters of firing and driving as well as put together the small subunits and lead them into battle. It is an official duty of experienced officers to be concerned for the sergeants, to support their authority, teach them to command subordinates and master the procedures of indoctrinal work.

One of the important components in combat readiness is the technical equipping of the Armed Forces, the quality and quantity of the weapons and combat equipment. Our troops and naval forces are presently equipped with all types of modern combat equipment. In order to maintain this in constant readiness for combat and for effective use, it is essential to organize for all the personnel a thorough study and mastery of the weapons, equipment and command systems, to secure technically skilled operation, the execution of precise maintenance, high-quality repairs and adjustments.

In the leading formations and units, it has become a strict rule where no combat vehicle, rocket unit, gun, radio or motor vehicle can be left in the fleet unmaintained and unfueled after operation. In the units there should be strict consideration of the operating life of the equipment and weapons, the unit of fire, and transport as well as the supply of spare parts and technical specifications.

At present, technical literacy of all categories of servicemen has become one of the main indicators for the combat readiness and capability of the troops.

Equipment is mastered by the person who knows it well, that is, can immediately put it into action as well as fully utilize the combat capabilities. In order to achieve such a level of training, many commanders of subunits and units employ all forms of training and indoctrination to instill in the men a love for the weapons and equipment. They create conditions for increasing the technical knowledge and practical skills so that each man has mastered several specialties. In the aim of shortening the time spent on the technical training of young soldiers, for improving the quality of each exercise and for the rapid acquisition of practical skills, extensive use is made of trainers and other equipment, and programmed training methods are being introduced. The equipping of training centers and fields using mechanization, automation and monitoring equipment intensifies the exercises for technical training.

As the experience of the war has shown, technical equipping has assumed real force and is felt most in increasing the combat readiness of the troops only in the instance that this is combined with superiority over the enemy in the art of conducting combat. Here the decisive role is played by the commanders who should possess extensive technical knowledge, in all exercises master the methods of the effective employment of repair and salvage equipment, not allow this to lag behind the troops in carrying out a march and in the course of an offensive, and without fail work out practical questions of the repair and rebuilding of equipment under field conditions. No troop exercise on any level should be carried out without the detailed working through of tasks related to the complete technical support for the troops and the maintenance of equipment.

Strong military discipline is a most important indicator of combat readiness. As experience has confirmed, without firm discipline which is based upon precise efficiency, it is inconceivable to have well organized combat and political training, the indoctrination of lasting moral-political and combat qualities of the men and the achieving of a high level of combat capability and readiness. With good reason discipline has been termed the mother of victory. V.I. Lenin pointed out that in military affairs "it is essential to have military discipline and military vigilance brought to the highest limits." (o) Those subunits, units and formations where they have established strong discipline, effective organization and precise execution, are well coordinated combat organisms united by a single will and are capable of achieving victory. The slightest weakening of discipline leads to a drop in combat readiness and tells negatively on the course of combat.

In the leading units, the principles of organization and discipline are established by planned combat training and by well organized political work with the personnel. The commanders and staffs of these units focus on individual work with each serviceman. They endeavor to conduct the exercises in an organized manner, without allowing disorder, negligence and inefficiency among the personnel. Senior chiefs should deal strictly with subordinates for the failure or postponement of exercises, for poor preparations for them or the diverting of personnel from combat training.

The necessity for the strict and complete execution of disciplinary requirements is dictated by the constant complicating of troop working

conditions. The group nature of the employment of weapons, combat systems, units and automated systems has immeasurably increased the demands upon the rapid, precise and well-coordinated collective actions of the crews, teams and subunits and has direct bearing on their combat readiness. Certainly the time spent on carrying out commands, orders or the standards of any set task can be seen as one of the determining indicators of organization, combat activeness and initiative.

One of the crucial conditions for the indoctrination of the personnel in a spirit of high efficiency is the exactingness of the commanders and political workers for the quality of training in accord with the military oath and prescribed order. Such exactingness, if it is unweakened and just, makes it possible to maintain correct relations between the servicemen. This is perceived as a natural phenomenon and for this reason the men endeavor to carry out their duties in an enterprising manner and stand their service in an exemplary manner. The personal example of a commander is the most effective means for instilling respect for discipline. Practices of many years have shown that there are more order and organization in those units where the officers themselves are an example of efficiency, professionalism, exactingness, the strict and precise observance of the regulations. Nothing so undermines the bases of discipline as a negative example set by senior chiefs or the discrepancy of their words to deeds. Official authority is based upon the personal example of the commanders and in order to win the respect of subordinates, an officer must be a model of political maturity and moral purity. For this reason, in the interests of raising combat readiness the political bodies and party organizations direct their efforts at strengthening one-man command and raising the authority of the commanders and at indoctrinating the men in a spirit of respect for the commanders and unwavering fulfillment of their orders and instructions.

In the course of carrying out the tasks of socioeconomic development in the nation, the men develop such qualities essential for the motherland's defenders as high ideological conviction and responsibility, discipline, initiative and the ability to subordinate one's actions to the interests of the collective and which contributes to the political awareness and maturity and the fastest combat teamwork of the crews, teams and subunits. For developing high combat qualities in the personnel, it is essential to have precisely organized combat training and effective party political work in the area of ideological indoctrination.

In the interests of raising the combat readiness of the Armed Forces and securely defending the Soviet state, it is particularly important to look ahead to the scientific elaboration of high-priority problems of maintaining a stable military equilibrium, examining the possible nature of a war being prepared by the imperialists and thwarting the dangerous preparations of the aggressor as well as seeking out an acceleration in the most progressive ways of Army and Navy development. Without scientific prediction, without a profound generalization of practical troop experience, a thorough consideration of the combat qualities of new weapons and a study of the technical achievements of foreign armies, at present it is impossible to correctly determine the prospects for further increasing combat readiness and

improving the organizational structure and the methods of operational and combat training.

The qualitative changes presently occurring in military affairs have confronted Soviet military science with evermore complex tasks requiring a widening of the front of scientific work and the development of the necessary technical backlog. As was pointed out in the materials of the 27th Party Congress, science must find effective and prompt solutions to current and long-range problems on the basis of fundamental research and seek the rapid materialization of scientific ideas in military affairs. In solving these questions, of urgent significance are the following: a systems approach to planning the development of weapons employing modern technical and economic analysis; a rise in the scientific level of the operational and tactical-technical demands; observing reasonable proportions which correspond to the established views on the employment of the Armed Services and the estimate of the international political situation.

In considering the rapid obsolescence of weapons and combat equipment, science must develop new models as well as continuously improve the existing ones. At present, we can no longer tolerate a situation where valuable inventions by scientists and designers are held up for years in the laboratories and testing ranges and are sometimes obsolete before reaching mass production. As is known, during the war years, Soviet scientists, designers and engineers were able to greatly reduce the time for developing and putting new models of combat systems into production. Thus, in 1943, the 152-mm howitzer was designed and manufactured in just 18 days and its mass production developed in 6 weeks.(7) Precisely such methods and rates of carrying out scientific and engineering developments ensured that the Soviet troops won technical superiority over the strong enemy. This instructive wartime experience can now be used as a good example for our scientists, engineers and workers.

The further creative development of military art is of particularly important significance for combat readiness. It is essential to carefully study, generalize and analyze the experience of local wars waged by imperialism as well as the troop training practices for, as V.I. Lenin pointed out, "the viewpoint of life and practice should be the first and basic viewpoint in the theory of cognition."(8) At present, there is the urgent question of widely involving all officer personnel in scientific work, and more closely coordinating the efforts of the commanders, staffs, scientific organizations, military schools and theoretical journals. A close unity of creative efforts by military workers and scientists is the guarantee for the successful carrying out of the most difficult tasks in developing strategy, operational art and tactics. This, in turn, will have a beneficial effect on the development of fundamentally new types of combat equipment and will also provide an opportunity to assess the views of the probable enemy with great foresight. The rapid introduction of scientific recommendations gained as a result of advanced troop experience will improve the skills of the officers as well as the quality of their work in the area of indoctrinating and training the personnel.

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The level of combat readiness is the main criterion for the party and state assessment of the quality state of the troops and naval forces. Combat readiness should conform to the degree of the military threat and ensure the necessary readiness of the troops and naval forces to carry out combat tasks and, primarily, to repel an enemy surprise attack. The importance of combat readiness and troop vigilance rises particularly during abrupt exacerbations of the international situation brought about by the provocative actions of the imperialists.

The improving of combat readiness is an ongoing process. Today we cannot remain at the level which we achieved yesterday. It is essential to constantly see to it that each soldier profoundly realizes the acuteness of the international situation and the demands of the party and people on the Armed Forces to always be on guard and ready to repel any intrigues of the aggressor so that no chance can catch us by surprise. In drawing lessons from the past and considering the aggressive nature of the imperialist forces, it is essential to be guided by the instructions of V.I. Lenin that "our steps to peace should be accompanied by the straining of all our military readiness...."(9)

The men of the Army and Navy are well aware of the leader's demand and the high responsibility entrusted to them by the 27th CPSU Congress. They are vigilantly guarding the peace, they are constantly mastering the powerful combat equipment and weapons, they are increasing their field, air and sea skills as well as their moral-political tempering, they are strengthening organization and discipline, they are endeavoring to carry out the combat training tasks in an exemplary manner and properly celebrate the 70th anniversary of the Great October Socialist Revolution.

On the question of defending the interests of world socialism, of enormous significance is ensuring closer collaboration between the fraternal socialist countries in the military area. The stronger the friendship between the peoples and armies, the more secure the cause of defending socialism and peace in the world. As has been pointed out by M.S. Gorbachev, "history has entrusted special responsibility to the socialist countries. In actuality there is no other so strong force capable of restraining the aggressive circles of imperialism and preventing them from pushing mankind into the abyss of nuclear war."(10)

The Soviet people can be confident that today's generation of the defenders of the Soviet motherland is a worthy heir and continuer of the combat traditions of the heroic generation which on the fields of previous engagements defended the honor and independence of their fatherland, liberated many peoples from the Nazi invaders and defeated the aggressor head-on. Lenin's party armed the Soviet soldiers with Marxist-Leninist teachings and which contain an inexhaustible source of ideological conviction, political maturity, combat activeness and class hate for the aggressor. In the world there are no forces which could shake the faith of the Soviet people in the victory of communism. The guarantee of this is the growing economic and defense might of the USSR, the strengthening unity between army and people, and the wise, farsighted leadership of the CPSU over communist construction and over the defense of our socialist motherland.

FOOTNOTES

1. "Materialy XXVII sъezda KPSS" [Materials of the 27th CPSU Congress], Moscow, Politizdat, 1986, p 110.
2. V.I. Lenin, PSS [Complete Collected Works], Vol 41, p 242.
3. Ibid., Vol 42, p 173.
4. Ibid., Vol 41, p 81.
5. "Materialy XXVII sъезда...", p 62.
6. V.I. Lenin, PSS, Vol 39, p 55.
7. "Vторая мировая война. Итоги и уроки" [World War II. Results and Lessons], Moscow, Voyenizdat, 1985, p 229.
8. V.I. Lenin, PSS, Vol 18, p 145.
9. Ibid., Vol 40, p 248.
10. PRAVDA, 25 October 1985.

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## TECHNICAL REARMING OF SOVIET ARMY ON EVE OF GREAT PATRIOTIC WAR

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[Article, published under the heading "Soviet Military Art," by Col A.G. Khorkov, doctor of historical sciences: "The Technical Rearming of Soviet Army on the Eve of the Great Patriotic War"]

[Text] During the prewar years the Communist Party and the Soviet government waged a constant struggle to prevent war and organize a collective rebuff to aggression. However, their efforts encountered stubborn resistance from not only the governments of the fascist Triple Pact but also from such states as France, England and the United States which, in conducting a policy of non-intervention, were endeavoring to deflect the aggression against the USSR. Under these conditions, the Communist Party initiated energetic measures aimed at increasing the nation's defense capability. Here it was guided by the instructions of V.I. Lenin that "we approach the defense of the fatherland with caution and we are obliged to do everything that our diplomacy can provide to defer the moment of war or at least extend the truce..."(1) And there was much to be done both in the area of foreign policy activities as well as inside the country.

Even the directives on the compiling of the First Five-Year Plan pointed to the necessity of "paying maximum attention to the most rapid development of those national economic sectors generally and industry in particular which will play the main role in ensuring defense and economic stability for the nation in wartime."(2) The Second Five-Year Plan (1933-1937) provided for the completion of technical reconstruction and the rearming of the troops with modern combat equipment so that the Red Army would be able to fight any coalition of capitalist states in the event of their attack on the USSR. The Third Five-Year Plan (1938-1942) envisaged the greatest possible rise in the strike force and maneuverability of the RKKA [Worker-Peasant Red Army], a continuing further deployment of the ground troops, artillery of the RGK [Reserve High Command], the air and naval forces as well as the establishing of large armored formations.

The sharply exacerbated international situation demanded that such vast tasks be resolved in such a short time. Nazi Germany had initially prepared intensely and then commenced a war to partition the world and to widen its

"living space." Here the views of the Führer and his henchmen were constantly turning to the Soviet Union. "...When we presently speak about new lands in Europe," stated Hitler, "we should have Russia in mind first of all...."(3)

Nazi Germany and its allies, in preparing to attack our country, carried out unprecedented militarization of the economy, began mass military production and established a well armed and trained army. Just from 1933 through 1939, German defense production increased by more than 12-fold while aircraft building rose by almost 23-fold.(4) The size of the armed forces by June 1941 had reached the unbelievable amount of 7,254,000 men.(5)

The Communist Party and the Soviet government, in preparing the nation to repel aggression, carried out a series of very important measures of a political, economic, diplomatic and military nature. Among the most important of these, the economic preparation of the nation, held a central place. In resolving this problem, the party proceeded from the instructions of V.I. Lenin that "without an army, without very serious economic preparations,...it is an impossible thing to wage a modern war against advanced imperialism."(6) Under those conditions it was essential first of all to achieve an abrupt increase in the volume of industrial production, improve its quality, strengthen labor discipline and establish significant state reserves. On 17 February 1940, the USSR Council of People's Commissars [SNK] approved a regulation on the "Directorate of State Reserves Under the USSR SNK." The task of this directorate was to "stockpile reserves for the crucial types of raw products, materials, articles, fuel, food and industrial goods and organize their correct storage."(7) The nation began to establish the required state reserves and a special defense fund. For example, the reserves and supplies of rye, wheat, oats, flour and groats by 1 January 1941 were 6,162,000 tons. This provided an opportunity to establish the appropriate holdings of food and fodder for a 4-6-month supply of the army in wartime.(8)

In August 1940, the party Central Committee and the USSR SNK approved the Decree "On the Plan for Stockpiling State Reserves and Mobilization Supplies for 1940" and in June of the following year, the same for 1941. Characteristically, the mobilization supplies and reserves increased as the threat of attack on the USSR grew. From January 1939 through January 1941, these increased as follows: by 5-fold for iron, by 2-fold for rolled products, by more than double for copper, by 2.2-fold for zinc and 1.6-fold for lead. In monetary terms the state material reserves over the 18 prewar months rose from 4 billion rubles to 7.6 billion rubles, that is, almost double. On 1 January 1941, the nation had in reserve: 1.6 million tons of oil, 177,000 tons of iron and 203,700 tons of rolled products.(9)

An important role was played by the Ukases of the Presidium of the USSR Supreme Soviet "On Converting to an 8-Hour Workday, a 7-Day Week and on Banning the Independent Quitting of Enterprises and Institutions by Workers and White Collar Personnel" and "On Responsibility for the Output of Inferior-Quality Products and for the Nonobservance of Obligatory Standards by Industrial Enterprises"; these were approved in June-July 1940.

On 2 October 1940, the Presidium of the USSR Supreme Soviet issued the ukase "On State Labor Reserves of the USSR" and which envisaged the establishing of trade and railroad schools as well as FZO [factory-plant training] schools and the conducting of an annual organized recruitment of young persons for training in worker professions. In less than 3 months the USSR SNK and the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee summed up the preliminary results of fulfilling this decree and set out the main tasks in training skilled workers for 1941. Here they particularly considered the needs of national defense and those industrial sectors which directly determined defense production. In particular, it was decided that of the 257,000 men who had completed production training on 1 June 1941, some 50,000, that is, one-fifth of all the young workers, were to be allocated in the following manner, sending: 25,000 into the aviation industry, 10,000 to the enterprises of the people's commissariats of weaponry and ammunition and 15,000 to defense construction projects.(10)

An important role in preparing the nation to repel aggression was played by the 18th All-Union VKP(b) Conference conducted from 15 through 20 February 1941. This discussed the tasks of the party organizations in the area of industry and transport. In the resolution adopted on the discussed question it was pointed out that "industry has been and is the base for the nation's defense capacity. In the current international situation, our industry and all its sectors are confronted with very crucial tasks. It should operate in an exceptionally organized manner and with maximum productivity."(11)

The Communist Party and the Soviet government, in paying great attention to the economic preparation of the nation, particularly emphasized the need to develop the defense industry. For this purpose funds for national defense increased from 40 billion rubles in 1939 to 56 billion rubles in 1940, and for 1941 they were planned at 71 billion rubles(12); in 1939 this was 25.6 percent of the total state budget, in 1940, 32.6 percent and in 1941, 43.4 percent.(13)

The increased attention paid by the Communist Party to the development of the defense sectors of industry produced results: the growth of defense products began to significantly outstrip the increased production of all remaining enterprises. For example, in 1938, with an over-all 11.8 percent increase in industrial production, the output of defense products rose by 36.4 percent. In 1939, the product of all industry increased by 16 percent while the enterprises of the people's commissariats of the defense industry rose by 46.5 percent. In 1940, the volume of defense industry product rose by more than one-third.(14) While the annual increase in total industrial product over the last 3 postwar years was an average of 13 percent, the increase for defense products reached 39 percent.

Along with the development of the defense industry, those industrial sectors which to a significant degree determined military production were also developed at an accelerated pace. On the eve of the Great Patriotic War, the USSR held second place in the world in terms of the volume of machine building products and iron ore mining, in terms of the casting of iron and steel, third place for the production of electric power and fourth for coal mining. At the same time, the VKP(b) Central Committee and the Soviet government realized

tnat Nazi Germany which had converted the economy ahead of time to a wartime footing and had intensely exploited the labor and material resources of the occupied and dependent states, had a significant advantage for a whole series of very important industrial indicators which were of defense importance. Thus, the output of electric power (annual production) in the Soviet Union was about 40 percent of the German production, steel casting was about 40 percent, iron production about 50 percent and the output of metal-cutting machines was around 30 percent. However, due to the socialist nature of production, the growth rate of our state's industry was almost 5-fold higher than in Germany. Moreover, the Soviet economy had greater mobility and stability, it was dispersed literally over the entire territory of the nation and possessed enormous reserves of raw material resources.

The 18th VKP(b) Congress, in adopting the Third Five-Year Plan for the development of the national economy provided (in the interests of future long-range development of heavy and defense industry) for the establishing of a strong military economic base in the East of the nation, in the Urals, the Volga region, Siberia and Kazakhstan, that is, in regions lying beyond the reach of probable enemy aviation. In 1940, the proportional amount of steel casting in the East of the nation was 32.3 percent while coal mining was 36 percent. In the eastern regions of the nation, an industrial base was being rapidly developed for producing strategically important products, duplicate enterprises and branches of main production were being built and the necessary reserves and capacity established ensuring a rise in the production of equipment and weapons. By the summer of 1941, these regions had almost one-fifth of all the nation's military plants producing 18.5 percent of the defense product.(15) This substantially increased the capabilities and stability of our economy.

The increased military danger caused by the aggressive actions of Nazi Germany in Europe forced the Soviet government to adopt a series of additional measures to increase national defense capability. In September 1939, upon the initiative of the party Central Committee, the Defense Committee Under the USSR SNK adopted the Decree "On Reconstruction of Existing Aircraft Plants and the Building of New Ones." Here great importance was given to the time factor. The entire range of planned measures was to be carried out rapidly. The People's Commissariat of the Aviation Industry was ordered to complete the construction and reconstruction of 18 aircraft building plants by no later than December 1941.(16) And somewhat later the Central Committee Politburo adopted the Decree "On the Development of Aviation Engine Plants" and this envisaged a doubling of the power of aviation engines.(17)

For advanced small arms and artillery weapons, new tanks, high-speed fighters, divebombers, ground attack planes, modern communications equipment, engineer and other equipment were developed and introduced into the troops. Over the 2 1/2 prewar years (from 1939 through the first half of 1941), the number of rifles and carbines in the troops increased by 70 percent, light machine guns by 44 percent and medium machine guns by 29 percent.(18) Over this same period, the number of 76-mm regimental cannons rose by 124 percent, the 76-mm divisional cannons by 45 percent, the 122-mm howitzers by 86 percent, the 122-mm cannons by 243 percent, the 152-mm howitzers and howitzer cannons by

137 percent, the 45-mm antitank cannons by 94 percent and antiaircraft guns by 76 percent.(19) The degree of motorizing the troops increased significantly.

An essential factor in increasing the level of technical equipping and rearming of the troops was the achievements of scientific and technical progress. Thus, due to joint work by the people's commissariats of the defense sectors of industry and the USSR Academy of Sciences, the design and technical bases for producing a new generation of tanks and ground artillery weapons were theoretically elaborated and actually established, equipment was developed for the designing and production of mortar weapons, effective means were found for increasing the life of gun and small-arms barrels, production was improved of alloyed steels and armored plate with high mechanical properties, new materials such as malleable cast iron, steel substitutes and so forth.

The party and government gave great attention to increasing the scope of scientific research and experimental design work and to the training of designers and specialists. An entire galaxy of talented organizers of military production was trained as well as personnel of managers, engineers, technicians and white collar personnel. By the start of the war, the national economy employed 909,000 persons with a higher education (289,900 engineers) and around 1.5 million with a specialized secondary education (320,000 technicians)(20); of these a significant portion was employed in the production and modernizing of weapons. Here it must be pointed out that the developers of Soviet armament were not engaged in copying or modernizing foreign models but rather pioneered in their development. The designers endeavored to develop models of weapons which not only surpassed enemy weapons but also could be put into production using available plant equipment and Soviet raw materials with the least expenditure of scarce materials. During the prewar materials, industry turned out a number of promising models which were a complete technical surprise for the enemy.

The 18th VKP(b) Conference in its resolution pointed out that "as a result of advances in developing new equipment and the growth of the defense industry, the technical equipping of the Red Army and Navy with modern types and models of advanced weapons has increased significantly."(21)

On the eve of the war, our rifle formations and units were armed with the following: the rifle of the 1891/30 model and the carbine developed on its basis of the 1938 model; sniper and semiautomatic rifles; the Degtyarev light machine gun; the Maxim medium machine gun; the Degtyarev machine pistol (PPD) as well as individual types of automatic rifles. They began receiving new models of automatic weapons including: the Degtyarev medium machine gun; the Tokarev semiautomatic rifle; the Shpagin machine pistol. The latter in terms of its main tactical and technical specifications, simplicity of manufacture, reliability and convenience in use significantly surpassed the German submachine gun. However, our Ground Troops were inferior to the Wehrmacht in terms of the number of automatic weapons in use, particularly submachine guns, the production of which had just gotten underway on the eve of the war in the USSR.

The units and formations of armored troops from 1940 began receiving the KV and T-34 new generation of tanks which were marked by high mobility, rational bulletproof armor, powerful weapons and which significantly surpassed the vehicles of foreign armies in terms of their combat and operating performance. Moreover, the production methods for our tanks were better than the production methods of foreign models. They could be repaired directly in the troops.

The rearming of the tank units and formations started a year before the war. The new vehicles were received in small batches. In 1940, just 243 KV tanks and 115 T-34 were received(22) and in the following year they planned to send to the troops 4,620 tanks, including 900 KV tanks, 2,500 T-34 tanks, 550 T-50 light tanks and 670 T-37 and T-40 light tanks. Unfortunately, over the short period of time our industry was unable to provide the required number of tanks and during the 6 months the plan was only partially fulfilled. On 22 June 1941, the tank fleet of the Soviet Army consisted of just 636 KV tanks and 1,225 T-34 tanks. The basic mass was comprised of fighting vehicles of obsolete design.

The strengthening of the nation's defense economy made it possible to develop new types of artillery, instruments, ammunition and tractors. The troops had begun receiving a good deal of artillery weapons. Just in 1937-1940, the Soviet Army received seven models of new field guns, three of antiaircraft cannons and four models of mortars. Moreover, such weapons as the 76-mm cannon of the 1939 model, the 122-mm howitzer of the 1938 model, the 152-mm howitzer cannon and the 120-mm mortar of the 1938 model were on a level of the best artillery systems of the world. The antiaircraft artillery units from 1939 began receiving new 37-mm automatic cannons as well as 76- and 85-mm cannons.(23) Just before the start of the war, the world's first system of field rocket artillery the BM-13 was commissioned. The weak point in the development of artillery was the insufficient providing of it with special mechanized traction. On 1 January 1941, this consisted of: 70 percent for tractors, 43 percent for motor vehicles (trucks) and 41 percent for truck-tractor trailers. Up to 30 percent of the total number of tractors had been taken from the national economy. Their technical state because of constant use was unsatisfactory and, in the opinion of the Main Artillery Directorate, it was impossible to consider them in determining the supply conditions.(24)

On the eve of the war, Soviet aviation was also being rearmed. In 1940-1941, the Air Forces began receiving new combat aircraft, such as: the YaK-1, LAGG-3 and MIG-3 fighters, the IL-2 ground attack plane and the PE-2 divebomber.(26) The total number of aircraft by the spring of 1941 had more than doubled in comparison with the start of 1939. However, few new aircraft were still being received, as their production was complicated, it took a comparatively long time to set up and had still not become mass.

Fighter aviation assigned for air defense consisted of only 60 percent of the required aircraft of which only 9 percent was YaK-1 and MIG-3 fighters. Of the 22 fighter air regiments planned for rearming first, by 22 June 1941, only 8 had been completely rearmed. Only one bomber regiment had been completely converted to the PE-2 aircraft. Somewhat better in this regard was the long-range bomber aviation.

In the course of the fighting in 1939-1940, flaws were detected in the technical equipping of the signal and engineer troops. As a result of the measures adopted by the Defense Committee under the SNK, during the prewar years the signal troops received a number of new types of equipment, including radios for the army, corps, divisional, regimental and other radio nets, as well as the RUS-1 and RUS-2 aircraft detection radars. However, due to the rapid increase in the number of new formations as well as the insufficient effective delivery of equipment, the supply of the troops with the corresponding communications equipment was far from complete at the beginning of 1941. Thus, the Soviet Army had 63 percent of the required from radios, 59 percent of the army, 56 percent of the corps and divisional, 57 percent of the regimental, 78 percent of the battalion and 83 percent of the company. The supply of the troops with wire equipment was somewhat better.(26)

In the prewar years, the degree of motorization of the ground troops rose by several-fold. For example, while in 1939, there was one motor vehicle for every 125 men, in 1941, the figure was 12-15 men. By the start of the war, the total number of motor vehicles available for these troops was 272,000 and the number of armored vehicles surpassed 5,000.(27) However, the troops were provided with only an incomplete 40 percent of the TOE requirement as a whole for motor vehicle equipment.

Military science made a significant contribution to increasing the nation's defense capability and to the technical rearming of the army. During the prewar years it made a thorough study of the nature and scope of a future war, it defined its main strategic features, it drew important conclusions on the direction and content of military organizational development, the forms and methods of training and employing the armed forces, and provided theoretical studies and practical recommendations on the preparation for the mass output of weapons and military equipment.

An important feature of military science during the prewar years was the development of new concepts and conclusions based upon a generalization and study of the combat experience of the commenced World War II. This ensured the prompt detection of trends in armed combat and the elaboration of the most effective methods and forms of military operations and the development of the corresponding types of armament. On the basis of the recommendations of Soviet military science, in 1939, the nation completed a changeover to a regular manning system as established by the Law Governing Universal Military Service. According to this law the induction age was set not at 21 years, as had been the case previously, but 19 years and 18 years for those who had completed a full secondary school. This measure led to an increase in the size of the Armed Forces and established good prerequisites for the training of command and technical personnel. The period of active service was lengthened and this provided high combat skills for the junior commanders and soldiers who had to skillfully handle the complex weapons and combat equipment. The promptly adopted law made it possible in a short period of time to significantly raise the defense capacity of the Soviet state. With its introduction it became possible to have a larger number of trained personnel and, in addition, to accumulate the necessary reserves in the event of deploying the troops in a mobilization.

In 1939-1940, significant changes occurred in the organization and establishment of the various elements of the central apparatus, the field forces, formations and units. New military districts were established, and the number of rifle formations was increased, in comparison with August 1939, from 97 to 198. According to the wartime TOE, in 1941 a rifle division was to consist of three rifle regiments and two artillery regiments, an antiaircraft artillery battalion, an antitank artillery battalion, a combat engineer battalion, a signals battalion and a number of support and service subunits. Such a formation was to have 14,500 men, 210 guns and mortars (not counting 50-mm), 16 light tanks, 558 machine guns, 1,204 machine pistols, 13 armored vehicles and 558 motor vehicles.(28) In terms of its fire power, it was the equal of an infantry division of the Nazi Army but had fewer vehicles. A majority of our divisions was maintained at peacetime TOE.

From July 1940, they began constituting 9 mechanized corps, and in March-June 1941, another 20. However, the leadership of the People's Commissariat of Defense did not consider the real capabilities for promptly manning the mechanized formations with personnel and combat equipment. For this reason, on 20 June 1941, not more than 50 percent of the required number of tanks was available.

In the interests of strengthening the antitank capability of the troops, in May 1941,(29) 50 tank regiments of the mechanized corps, until their receiving of tanks, were armed with 76-mm and 45-mm cannons and DT machine guns so that in the event of necessity, these units could be employed "as antitank regiments and battalions."(30) Undoubtedly, this could have played a major role in combating enemy tanks. Since the directive was to be carried out by 1 July 1941, this work had not yet been completed by the start of the war.

The scope of the organizational measures carried out in aviation can be seen from the fact that by June 1941, the total number of air regiments had increased by more than 80 percent in comparison with 1939, and since 1939 they had begun constituting air divisions. Certain organizational changes had also been carried out in the air defense, signals and engineer troops.

The measures carried out by the party significantly increased the might of the state and the combat and mobilization readiness of the Armed Forces. However, regardless of the intense development of the defense industry, the output of combat equipment, weapons and ammunition was not sufficient for equipping the rapidly growing formations and units. This created serious difficulties in providing the troops with modern weapons, means of transport and other military supplies. Industry was not able to always meet the army's orders promptly and successfully and thus 25 percent of all allocations provided for weapons in 1936-1940 was not used.(31)

In the prewar years, a portion of the commanders overestimated the role of cavalry in modern warfare. While the main capitalist states in the 1930s had significantly reduced the cavalry of their armies, in our nation it had numerically increased. In giving the report "Twenty Years of the Worker-Peasant Red Army and Navy," the People's Commissar of Defense K.Ye. Voroshilov said: "The cavalry in all armies of the world is living through, or more accurately has already lived through, a crisis and in many armies has been

virtually eliminated.... We support a different viewpoint...we are convinced that our valorous cavalry will again cause itself to be spoken of as the mighty and victorious Red Cavalry.... The Red Cavalry as before...is a crushing armed force and can carry out important tasks on all fighting fronts."(32)

A study of the experience of the commenced World War II, and in particular the fighting in Poland, showed that the cavalry was unable to put up substantial resistance to armored troops and all the more to replace them and only on the eve of the Great Patriotic War was a reduction in the cavalry commenced.

However, the existing shortcomings did not have a decisive impact on the scale and pace of the technical rearming of the army. The weapons system of the Soviet Army created in the prewar years was so advanced and promising that in the course of the war the existing production process did not have to be broken up.

Preparations for repelling a possible Nazi attack were carried out not only in the area of increasing weapons and combat equipment. The Central Committee demanded the greatest possible improvement in indoctrinating the people in a spirit of total love for the Soviet motherland, implacable hate for Nazism and a constant readiness to defend the fatherland. In giving ever-greater importance to this question, the party Central Committee in the spring of 1940 held a meeting on the questions of ideological work in the Army and Navy. The meeting repudiated the viewpoint of an easy victory over the enemy and emphasized the necessity of mobilizing the men for a stubborn and protracted fight against a strong army armed with modern equipment.

The military-economic preparation of the country was carried out considering the probability of waging war on two fronts (Western and Eastern). Here the main one was considered to be the Western against Nazi Germany which had a strong economic base and an industry which had been fully mobilized and converted to a wartime footing. Starting in 1936, the economic development of Germany was carried out under conditions of a direct preparation for world war. The Nazi leadership paid special attention to increasing the pace of defense production. The industry of Belgium, France, Czechoslovakia, Poland, Norway, the Netherlands and other occupied European countries worked for Germany.

Germany attacked the USSR after it had captured virtually all of Western Europe with its economic resources and strong industry. This made it possible for Germany to produce 31.8 million tons of steel(33) while our nation on the eve of the war cast only 18.3 million tons. Having occupied the nations of Western Europe, in France alone the Nazis captured 3,000 aircraft and 4,930 tanks. Moreover, German industry operated with 3.1 million foreign workers and this was around 9 percent of the total work force.(34) By May 1941, 3.1 million persons had been taken out of the occupied European countries.(35) The measures carried out made it possible to Nazi Germany to significantly increase the production of weapons and equipment. Thus, the average monthly output of tanks (basically new model T-III and T-IV) and assault guns increased from 180 (1940) up to 270 (first half of 1941). Monthly production of all types of aircraft in 1941 increased up to 1,030 in comparison with

1940, when 850 units were produced, while the output of artillery and small-arms weapons rose by 1.8-fold in comparison with 1939.(36)

Because of the treacherous attack by Nazi Germany, not all the measures planned to strengthen national defense had been carried out in the prewar period. However, the main task of establishing a significant material-production potential for supplying the Army and Navy with various types of weapons and combat equipment and training the necessary personnel had been carried out. This contributed to the crushing defeat of Nazi Germany and its allies, regardless of their early preparations for the war and the achieved temporary superiority in men and weapons.

Unfortunately, the lessons of World War II have been forgotten by the governments of certain Western countries. In recent years, the United States and other NATO countries have significantly intensified the militarization of the economy, they have accelerated a weapons program of unprecedented scope, they have fanned a military psychosis and are giving the training of the armed forces a more aggressive bent. One cannot help but see also the attempts of imperialism to achieve military superiority over the socialist commonwealth.

"In taking into account the scale of the military threat and in recognizing our responsibility for the fate of peace," emphasized the General Secretary of the CPSU Central Committee M.S. Gorbachev, "we will not permit the shattering of the military-strategic equilibrium between the USSR and the United States, the Warsaw Pact and NATO. In the future we will adhere to this policy, for we have firmly and once and for all assimilated what the past has taught us."(37)

The Communist Party and the Soviet government, in considering the experience of the 1940s, are taking all necessary measures so that the Soviet Armed Forces are sufficiently supplied with the most modern weapons and equipment and serve as a reliable guarantee for restraining the aggressive imperialist circles from unleashing a new world war.

#### FOOTNOTES

1. V.I. Lenin, PSS [Complete Collected Works], Vol 36, pp 342-343.
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## DEVELOPMENT OF SYSTEM OF STRATEGIC LEADERSHIP BODIES WITH START OF GREAT PATRIOTIC WAR

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 6, Jun 87 (signed to press 25 May 87) pp 25-30

[Article by Col V.D. Danilov, candidate of historical sciences: "The Development of a System of Strategic Leadership Bodies With the Outbreak of the Great Patriotic War"]

[Text] In the interwar two decades, enormous work was done to improve the system of strategic leadership bodies and to bring its structure and functions into accord with the possible requirements of the war being predicted. This was based upon the principle of the unity of peacetime and wartime command institutions. Proceeding from it, in the first place, the functions of the People's Commissariat of Defense and the Commander-in-Chief were combined and this ensured a unity of leadership over the organizational development, training and strategic employment of the Armed Forces in a war. Secondly, this principle was employed in the theory and practice of the organizational development of the main working body of the Supreme High Command and the People's Commissariat of Defense, the General Staff, and thirdly, in organizing the system of strategic leadership bodies in such a manner so that with the outbreak of a war, without major changes, they could switch to command of the military actions of the Armed Forces.

As a result, by the start of the war there had come into being a system which corresponded to those views for the higher political, state and military leadership bodies of the Armed Forces headed by the party Central Committee. This included: the Commander-in-Chief; the main operational body for planning and directing the strategic actions of the Armed Forces, the General Staff; the higher political bodies which represented the Communist Party in the Army and Navy, the Political Directorate of the Red Army and Navy; the headquarters bodies of the Armed Services (according to the terminology of the designated period, the main branches of troops), the Ground Troops, Air Forces, Air Defense Troops and Navy; the rear bodies of the Armed Forces. Direct leadership over the Armed Forces which consisted of the Worker-Peasant Red Army [RKKA], Worker-Peasant Navy, the Border and Interior Troops, was a function of, respectively, the People's Commissariats of Defense, the Navy, Internal Affairs and State Security. Strategic leadership was to be carried out by the central apparatus which was active in peacetime from the regular

work areas and regular means of communications employing the civilian communications channels. No provision was made for establishing special bodies for the period of the war. The functions of the Commander-in-Chief were entrusted to the People's Commissariat of Defense. The main working body of the High Command in the area of the strategic employment of the Armed Forces was the General Staff.

It should be pointed out that in the prewar times, the solving of certain problems at the level of strategic leadership was faulty. There were miscalculations in assessing the might and axes of possible enemy strikes and in organizing the system of strategic leadership bodies (High Command, General Staff, other bodies, the central command posts, as well as the means of communications, command and support). There had been hurry in the appointment of individuals of the higher leadership. For example, the leadership of the General Staff was changed three times in less than a year. Army Gen K.A. Meretskov headed this body for less than 6 months, and Army Gen G.K. Zhukov some 4.5 months. Such a situation, certainly, could not help but tell on the effectiveness of strategic leadership at the outset of the war.

During the years of the Great Patriotic War, the validity of the fundamental concepts on which the strategic level of leadership over the Armed Forces was based was as a whole confirmed. At the same time, in organizing a system of strategic leadership bodies it was essential to go significantly farther than had been envisaged in the prewar plans. Experience was to show that under wartime conditions over-all leadership should be carried out by a collective body, Headquarters, and the right to take the final decision should belong to the Commander-in-Chief. Here the competence of the Commander-in-Chief should encompass the following spheres of activity: political, state and military.(1) In line with this, on 23 June 1941, a collective strategic leadership body was organized, the Headquarters of the High Command, the chairman of which was the People's Commissar of Defense, MSU S.K. Timoshenko. On 10 July, this was turned into the Headquarters of the Supreme Command, and on 8 August, into the Headquarters Supreme High Command (Hq SHC). On the very same day, I.V. Stalin, who by that time was the General Secretary of the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee, the chairman of the USSR SNK [Council of People's Commissars], the chairman of the GKO [State Defense Committee] and the People's Commissar of Defense (from 19 July 1941), also became the Supreme Commander-in-Chief.

Thus, within 6 weeks after the start of the war, an optimum variation was found for the superior strategic leadership body and the effective activities of this were ensured by the individual granted the highest powers in the state, the party, the government and the Armed Forces.

The situation which changed rapidly during the first months of the war often greatly complicated the command by Hq SHC over the actions of the operational-strategic field forces as well as the organizing of cooperation between the fronts. This necessitated the establishing of those leadership elements such as the institution of the representatives of Headquarters and the commander-in-chief of the strategic sectors.(2)

The representation of Hq SHC was a qualitatively new stage in developing a system of strategic leadership bodies. In a majority of instances, this included members of Headquarters or deputy people's commissars of defense who possessed wide powers for resolving fundamental questions on the spot and aimed at implementing the ideas of Hq SHC. They were entrusted with the tasks of providing help to the command of the operational-strategic field forces in planning the preparation and conducting operations, in coordinating the efforts of the groups of fronts for realizing the ideas of Headquarters and supervising the fulfillment of the directives of the Supreme High Command.

The practice of strategic leadership confirmed the validity of the prewar views on the role of the General Staff as the main working body of the Supreme High Command. However, under the conditions of the arising engagements, particularly due to the bad situation on the fronts and the forced going over of the Soviet troops to the strategic defensive during the initial period of the war, the scope and content of the work of the General Staff grew extraordinarily and became much more complex. For this reason by the decree of the GKO of 28 July 1941, the main efforts of the General Staff were to be concentrated on resolving operational questions: the elaboration of directives and orders of Hq SHC on the operational employment of the Armed Forces and war plans; the organization and leadership of intelligence activities for all types of intelligence; the elaboration of the questions of air defense, the operational preparation of the troops, staffs, services and rear bodies; the organization and arrangement of the operational rear services; the elaboration of provisions concerning the leadership of army formations as well as the collecting and processing of materials on studying the war's experience.(3)

The changed functions brought about the corresponding organizational reforms in the General Staff and primarily in its operations directorate. It was essential to abolish the Northwestern, Western, Southwestern, Near Eastern and Far Eastern sections and on their basis organize the corresponding sectors for the number of fronts.(4) A corps (prior to 25 April 1942, a group) of General Staff officers was organized. It was responsible for checking on the fulfillment by staffs and troops of directives, orders and instructions of the Supreme High Command in the operational army. It was also to quickly supply the General Staff with continuous and accurate information on the situation in the course of the fighting and on the state of the troops, it was to provide aid to the staffs and troops in the operational fulfillment of the plans confronting them, and was to be concerned with studying the experience of combat actions, the combat employment of new weapons and tactical procedures as well as the methods of troop command in battle and an operation. The General Staff was also released from organizational-mobilization functions and military railroads. The Directorate of the Rear and Troop Supply and the Motor Vehicle-Road Directorate were transferred from the General Staff to the Main Rear Services Directorate.

Not all the organizational changes in the General Staff withstood the test of time. However, in the specific situation this reorganization made it possible for it to concentrate maximally on solving the operational questions of leading the military operations of the Armed Forces.

From the very first days of the war, the volume of measures relating to mobilization, organization, manning and training of the troops increased sharply. In the aim of organizing centralized leadership over the formation of troops, on 11 July 1941, under the People's Commissariat of Defense a group was established for the constituting of new formations and units. However, by the end of July, the situation demanded the establishing of the Main Directorate for the Constituting and Providing of Troops for the Red Army (Glavupraform). The task of this directorate was, upon instructions of Hq SHC, to prepare reserves and drafts of recruits for the operational army. This was carried out through the Organizational and Mobilizational Directorate, the Directorate for Troop Manning and Organization as well as the directorates for the constituting of reserve units and combat training, and the directorate of armament and supply. Directorates for constituting and manning were also established in the Air Forces, the artillery, the armored and mechanized troops.

The activities of Glavupraform and the troop manning and organization directorates in certain services and branches of troops made it possible for the Supreme High Command to effectively solve questions on the training of drafts of recruits and the establishing of reserves for the operational army.

The most essential thing in the development of the leadership bodies of the Armed Services, the branches of troops and special troops was the instituting of the position of commanders (chiefs) who were granted higher powers in the area of leadership over the combat employment and complete support of the corresponding Armed Service or branch of troops.

The leadership of the Ground Troops, as had been planned in peacetime was provided by the Supreme High Command through the General Staff and the system of main and central directorates. In July 1941, the position of artillery chief was re-established and subsequently this was transformed into the position of the Red Army artillery commander. Simultaneously a military council, staff and other artillery command bodies were organized. The equipping of the troops with rocket artillery and the necessity of centralizing the leadership of its development and employment led to the establishing in August 1941 of the position of commander of the guards mortar [rocket] units and the establishing of the corresponding bodies under him. At the outset of the war, the position of Red Army signals chief was introduced and later this was combined with the position of the USSR people's commissar of communications. On 28 November 1941, the position of chief of the Red Army engineer troops was established. In the aim of improving the leadership of the airborne troops, on 29 August 1941, the position of commander of the airborne troops was introduced.

The most essential thing in the leadership of the Air Forces was the establishing on 29 June 1941 of the position of the commander of the Air Forces and deputy people's commissar of defense. Subsequently, in March 1942, in line with the establishing of long-range bomber aviation as a separate branch, the long-range aviation, the position of commander of long-range aviation was introduced.

In the aim of further centralizing leadership over air defense, by the GKO Decree of 9 November 1941, the position of deputy people's commissar of defense and commander of the Air Defense Troops of the Nation's Territory was introduced. Under the commander there were a military council, a staff and other headquarters bodies.(5)

According to the plan for organizational-mobilizational deployment in the People's Commissariat of the Navy, no provision was made for an increase in the number of structural subunits and the TOE size of the central apparatus. However, adjustments had to be made in the prewar plans. Thus, in the Organizational-Line Directorate of the Navy, in February 1942, a Directorate for the Training and Staffing of the Navy was organized and the Organizational-Line Directorate was put directly under the People's Commissar of the Navy. A Department of Land Defense was established on 25 March 1942 as part of the Operations Directorate of the Naval High Staff for working out the questions of the land defense of the naval bases and supervising the construction of defensive works. In the spring of the same year, the Navy Directorate for Shore Defense was formed in the aims of centralizing the leadership of shore defenses.

Significant changes occurred in the rear leadership bodies. For example, in the aim of strengthening the centralized leadership over the rear services in July 1941, the position of the chief of the Red Army Rear Services and Deputy People's Commissar of Defense was established. Under him were the Main Rear Directorate, the Motor Vehicle-Road Directorate and inspectorates as well as the Main Quartermaster Directorate, the Fuel Supply Directorate and the Main Sanitary and Veterinary Directorate. For more effectively resolving questions related to the delivery of materiel and personnel to the operational army, the chief of the rear services was appointed also as the People's Commissar of the Railroads. In being directly subordinate to the Supreme Commander-in-Chief, he was the connecting link between the People's Commissariat of Defense and the Industrial People's Commissariats.

Thus, as a result of the organizational reforms, leadership was centralized over all units, facilities and command bodies of the operational-strategic rear.

From the first days of the Great Patriotic War, it was essential to increase the role of the political bodies in strengthening the political-moral state of the personnel as well as in increasing the effectiveness of the combat activities of the troops and fleets. In this regard the activities of the political bodies in July 1941 were reorganized. Simultaneously with the introduction of the institution of military commissars, the main directorates for political propaganda of the army and navy were reorganized, respectively, into the Main Political Directorate of the Red Army and the Main Political Directorate of the Navy. In the Main Political Directorate of the Red Army bodies were established responsible for recruiting political personnel for the branches of troops, for party-political leadership over the partisan movement and for studying and propagandizing the experience of party-political work in the troops. The agitation and propaganda sections were converted into directorates. In June 1942, the Council for Military-Political Propaganda was established headed by the chief of the Main Political Directorate of the Red

Army. Corresponding organizational changes were made in the Navy Main Political Directorate.

It should be pointed out that in the course of the war the need arose in the central bodies for directing the combat activities of the partisans. At the various stages of the war, these included the Commander-in-Chief and the Central Staff of the Partisan Movement as well as other bodies at the center and in the operational-strategic field forces.

The armies of many states were involved in the war against Nazi Germany. For this reason the appropriate coalition leadership bodies were organized at the center and in the troops. Thus, in line with the necessity of organizing cooperation between the operational field forces and the operational-tactical formations of the Central and Southeastern European Troops and in the Far East, the Mongolian People's Revolutionary Army, these troops were put in operational terms under the Soviet Command. Representatives of the sides were present on the appropriate staffs for coordinating the combat actions of the subordinate troops. The military actions of the USSR Armed Forces with the U.S. and English armies were coordinated at periodically held conferences and meetings as well as in the course of the correspondents of the heads of government of these states and through military missions.

The effectiveness of strategic leadership depended largely upon the presence of command posts, their equipping with communications, command and life-support systems. In the prewar years a good deal was done in this area. In 1940 alone, 42 communications facilities were built and put into operation, and almost all of them (98 percent) were in the western sectors. However, communications f the General Staff with the fronts and armies was to be carried out chiefly over the general state network. The layout of the general-state wire network was planned according to a radial principle where the communications centers and lines were concentrated in the major industrial and administrative centers. Alternate communications centers and bypasses for major population points were lacking. The communications centers were located in quarters which were not protected against enemy air strikes. The overhead communications lines ran along railroads and highways. Underground cable lines were lacking.(8)

At the start of the war, because of the threat of bombing, the General Staff officers worked in a cellar which had been adapted as a bomb shelter but this was very inconvenient for command of the fronts. Later the decision was taken by co-workers to make their way for the night to the quarters of the metro station Belorusskaya, where a command post and communications center had been set up. "Now," recalled Army Gen S.M. Shtemenko subsequently, "every evening we collected the documents in trunks and set off for the Belorussian Station. During the entire night, on one-half of the subway platform the central command post was at work, while the other half partitioned off from the former just by a plywood partition, began to be filled with Moscow residents with the onset of dawn...."(9) In anticipating enemy air raids at the beginning of July, Headquarters was moved from the Kremlin to a separate-standing house in the area of the Kirov Gates. This was a secure building with communications and a month later on the platform of the subway station Kirovskaya they built the working quarters for the operators of the General Staff. Consequently, in

terms of organizing communications and establishing the appropriate protected structures for directing the armed struggle, it was essential to go significantly farther than had been envisaged in the prewar years.

These then are the most characteristic features in developing a system of strategic leadership bodies at the outset of the Great Patriotic War. In most general terms, these come down to the following.

First, it was essential to establish a collective strategic leadership body headed by a figure who had enormous authority not only in the Armed Forces but also in the party and the Soviet state. Given the right to take the final decision, the Supreme Commander-in-Chief as the head of the party and the Soviet government, as well as the GKO, gave special significance, weightiness and authority to the decisions of Hq SHC.

Second, being comprised of the most prominent party, state and military figures, Hq SHC was capable competently and effectively of solving any problems of strategic leadership over the military operations of the Armed Forces and their all-round support, as it had the powers in the necessary instances to adopt and draw up decisions on behalf of the Politburo of the Party Central Committee and the GKO.

Third, the high effectiveness of strategic leadership was achieved due to the scientifically sound and practically tested structure and functions of the command bodies (primarily the General Staff), to operational planning of the campaigns and operations, to the organizational development, training, employment and all-round support of the Armed Forces.

#### FOOTNOTES

1. As G.K. Zhukov recalled, during the first days of the war there were "two commanders-in-chief: the People's Commissar S.K. Timoshenko who was the legal one in accord with the decree, and I.V. Stalin who was the actual one" and this significantly "complicated the work of troop command and inevitably led to the superfluous waste of time in working out decisions and issuing orders" (G.K. Zhukov, "Vospominanaya i razmyshleniya" [Recollections and Reflections], Moscow, Izd-vo APN, 5th Edition, Vol 2, 1983, p 62).
2. An article on the experience of organizing and operating the high commands of the strategic sectors is planned for publishing in one of the next issues of the journal.
3. See: "Podvig naroda" [Feat of the People], Moscow, Nauka, 1981, p 175.
4. A.M. Vasilevskiy, "Delo vsey zhizni" [A Cause of One's Entire Life], Moscow, Politizdat, 2d Supplemented Edition, 1975, p 529.
5. See: "50 let Vooruzhennykh Sil SSSR" [Fifty Years of the USSR Armed Forces], Moscow, Voenizdat, 1968, p 268.
6. TsVMA [Central Naval Archives], folio 79, file 33567, sheets 6, 12.

7. [Not in text]
8. "Voyennyye svyazisty v dni voyny i mira" [Signal Troops During the Days of War and Peace], Moscow, Voyenizdat, 1968, p 120.
9. S.M. Shtemenko, "Generalnyy shtab v body voyny" [The General Staff in the War Years], Moscow, Voyenizdat, Book 1, 1985, p 35.

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## NAVY ANTIMINE DEFENSE DURING YEARS OF GREAT PATRIOTIC WAR

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[Article by Capt 2d Rank V.M. Yoltukhovskiy, candidate of historical sciences: "Naval Antimine Defenses During the Years of the Great Patriotic War"]

[Text] In endeavoring to prevent our ships, vessels and transports from leaving bases and ports or impede the deployment and combat operations of navy ship forces, the enemy from the very first days of the war began to widely employ mine weapons. The use of new mines (influence) along with the already known ones (anchored and antenna), the large number of antisweep mines, the scale and fast pace of setting and the extensive involvement of aviation in this (main and supporting actions) made it possible for the enemy to create a significant threat to navigation in extensive areas of our seas. The greatest danger was on the Baltic. Here the combating of mines at times was one of the primary types of daily combat activities for the fleet. This was also carried out actively on lakes and river, particularly on the Volga and Danube, where minesweepers of the Volga and Danube naval flotillas destroyed hundreds of anchored and bottom mines. This provided not only assistance to the ground troops in the river basins but also important national economic shipments.

Antimine defense (PMO) was organized, as a rule, according to the standard plan of the fleet commands. Over-all control was assigned to the fleet staffs while the staffs for the security of the water area (OVR) or maritime defensive areas (MOR) were responsible for the detailed elaboration and execution of antimine measures. For example, in the order of the Baltic Fleet Commander of 27 April 1942, the OVR forces were given as a daily task the following: by a minesweeping system, patrol service and observation as well as by the use of smokescreens, to support the movement of ships from Cape Lisiy Nos to Lavensari Island.(1)

The basic measures which ensured the reliability of PMO were: mine reconnaissance, antimine observation, opposing the minelaying activities of the enemy, sweeping for anchored and bottom influence mines and antimine security (escorting behind sweeps) of combat ships and vessels.

Mine reconnaissance was carried out by aviation (sporadically), by surface vessels and by submarines and at the outset of the war was of insignificant

scale. However, as enemy minelaying operations increased, its role began to rise. Reconnaissance sweeping was the most effective form for conducting mine reconnaissance. In 1941-1942, due to the limited number of minesweepers as well as their involvement in carrying out other missions, this was not widespread. Thus, during the first year of the war, on the Baltic there were 340 ship sorties for this purpose (basically during darkness).(2) Subsequently, as our troop offensive on maritime sectors began to develop, this form of mine reconnaissance became widespread. Landing craft and launches began to be used in reconnaissance sweeping. This was carried out most intensely in the Gulf of Finland and in the northwestern part of the Black Sea.

The extensive employment of aviation became a new direction in conducting mine reconnaissance, in comparison with previous wars. For the first time in the history of the Soviet Navy, in searching for mines from the air, photographic equipment was employed. In 1944 alone, some 74 aircraft sorties were made for aerial photography of minefields in Narva and Vyborg Bays, over an area of around 1,200 sq km, and during this some 529 mines and antisweep devices were detected.(3)

Mine reconnaissance was organized by the fleet staffs through the navy base (VMB) staffs and formations, while leadership of this was provided by the fleet chiefs of staff through the intelligence sections. On the staffs of the bases and formations the organizing of mine reconnaissance was entrusted to flagship or non-T/O intelligence specialists. On the ships the executive officers (mates) were responsible for this. The organizing of reconnaissance sweeping was the concern of the staffs of the OVR (minesweeping brigades) while air reconnaissance of enemy minelayings was under the control of the staffs of the fleet Air Forces. The hydrographic sections of the fleet staffs were responsible for aerial photography.

The improved organization of mine reconnaissance, the extending of the latter to a majority of the combat areas and the employment of new equipment made it possible to establish complete surveillance over the approaches to naval bases and a majority of the channels.

For determining the place and time of minesetting in coastal areas and on approaches to the bases, antimine observation (PMN) was organized and the chiefs of staff of the OVR of the naval bases and fleets were responsible for organizing it. At the outset of the war, this was carried out employing the posts of the observation and communications service (SNIS) and the coastal defenses, by signal observation posts and guard ships. But this was not sufficient for locating the enemy minesettings and determining their coordinates in the various areas of the maritime theaters. In the fleets, in the interests of PMN, in addition to the listed they began employing other forces, too. Thus, from the beginning of July in the Kronstadt area, the 7th Minesweeping Boat Division set out additional floating posts. With the relocating of the Baltic Fleet to Kronstadt and Leningrad, the organization of PMN was improved. In the Neva Bay they began operating a special group of patrol boats from a minesweeping detachment. At first the posts were set at night and with limited visibility and then around-the-clock. With the development of storms, the boats were replaced by tugs of the "Izhorets"

class. The observing of mine setting also continued when ice was formed. This was entrusted to the ice (stationary) and sled as well as iceboat (mobile) firing points.(4) For the Northern Maritime Theater, in contrast to the others, the gradual expanding of the PMN zone was characteristic and initially this encompassed the approaches to Kola Bay and Iokanga as well as the throat and northern part of the White Sea. In 1942, the PMN posts and patrols operated off Novaya Zemlya in the straits and Belushya Bay and later in the Kara Sea. In the eastern part of the theater, they were established only for the period of the Arctic navigation season. Active measures to organize PMN were employed by the command of the Northern Fleet in response to the enemy's wider use of mine weapons. While in 1941, some 111 enemy mines were set and in a limited area (Kola and Kandalaksha Bays, the northern part of the White Sea), in 1942, there were around 1,000 mines and antisweep devices on virtually all our northern sea-lanes.(5)

Antimine observation, if it was carried out clearly and in an intelligent manner, significantly facilitated the organization of all antimine defense. On the basis of its results as well as the mine reconnaissance data, the operational duty officer of the OVR initially drew up a daily sketch of the mine situation which was then plotted on a cumulative map which took into consideration not only the set but also the detonated mines. These data were also entered in the log for recording set mines. The coordinates of detected mines or settings were communicated to the fleet staff which also determined and declared areas closed to navigation. Then the sweeping of dangerous areas as organized.

The delayed organization of antimine observation significantly reduced the capabilities of PMO. For example, the widening of active minesetting carried out by enemy aviation in the aim of impeding operations of the Azov Naval Flotilla in supplying the Crimean Front in April 1942 forced our command to increase the number of PMN posts. However, these posts were deployed slowly over a period of 2 weeks. There were instances of the blowing up of vessels where the PMN was not of sufficient reliability or in areas not yet covered by them.

The organization of antimine observation was most developed in the Baltic. Here special documents were worked out, and a detachment of mobile observation posts was established (consisting of 38 boats and launches) and these just from April through September 1943 made 3,193 sorties.(6) Instead of all-round observation the posts were assigned sectors, the personnel was given instructions and had the required documents and instruments. This helped improve the quality of the PMN. A majority of the mines set by the enemy in the area was clearly fixed.

In 1944-1945, antimine observation was extended to all the coastal regions of the Gulf of Finland and Baltic as well as a significant portion of the channels. Also involved in it were the observation posts of the Soviet Army, antiaircraft batteries and aircraft from the 16th Reconnaissance Air Squadron. The use of radar was a new feature in the history of our Navy and to a large degree broadened the capabilities of PMN. For example, in the zone of the Island Naval Defensive Area in 1945, the PMN posts recorded 47 floating mines and 124 washed up on the coast.(7)

The countering of enemy minelaying activities played a definite role in the war years in carrying out antimine defense in the theaters and this was organized by the fleet staff through the staffs of the fleet Air Forces and the naval bases or MOR. This was carried out in the course of daily combat activities as well as by special measures and included: attacking the minelayers in their operational areas by ship forces and fleet aviation; attacking the minelayers at their bases (concentration areas); carrying out active minelaying on the routes of the minelayers (enemy mine transports). These missions were carried out chiefly by patrol boats and aviation.

An analysis of combat operations during the first month of the war indicated that the countering of minelaying was ineffective. One of the reasons for this was shortcomings in organizing patrol service. The system organized in peacetime of near and distant patrols during the first days of the war was disrupted. A portion of the forces assigned to stand patrol was employed in carrying out other tasks. Thus, the distant patrols in the Irben Strait and the mouth of the Gulf of Finland were removed after organizing the central mine and artillery position. The patrol service was assigned to submarines and surface vessels in the given region.

The course of combat and the complicating of the situation during the first weeks of the war forced the fleet commands to revise the organization of the patrol service, to draw up new guiding documents and assign additional forces. In the Baltic Fleet the new patrol service plan was introduced in the second half of July 1941. In accord with this, here the number of posts was increased and this ensured favorable navigating conditions on a majority of the sea-lanes in the eastern part of the Gulf of Finland. Subsequently, due to the increased number of enemy ships, the fleet command enlarged the size of the patrol groups and also established mobile support groups. The adopted measures made it possible to reduce the effectiveness of enemy actions, since the reinforced patrols not only impeded the enemy in setting mines but also caused it losses in the minesetting areas and forced its ships to leave these areas before carrying out the mission. Operations which involved aviation were particularly effective.

The attacking of minelayers at their base points was carried out sporadically. In 1943, three air strikes were made against the Port of Kotka, where the mine depots were located and the enemy minelayers based. In June 1944, the Baltic Fleet aviation successfully raided the mine depot and layers on Kirowsansari Island. As a result, the enemy lost a mine transport and barge with 270 mines. Moreover, some 335 mines and antisweep devices were destroyed at the depots.(8) This example shows the high effectiveness of air operations in the PMO system. For achieving an analogous result, scores of minesweeping and support ships would have to be employed for an extended time. An aircraft group in one raid destroyed more mines and antisweep devices than were done by the fleet minesweepers over all of 1942.(9)

The minelaying actions of our forces also created interference for the enemy in carrying out its minesettings. However, these were of a sporadic nature. In addition, active obstacles set by our ships and aircraft did not have

sufficient density and could not substantially influence enemy minelaying activities.

Sweeping was the chief measure in combating mine weapons in the course of the Great Patriotic War.

The limited number of sweeping forces did not make it possible to organize their planned employment at the outset of the war. For clearing mines from the main channels, more often a control sweep was employed and this was carried out, as a rule, during darkness. With a stronger mine threat or increased ship traffic, the amount of sweeping increased and this was carried out to the detriment of secrecy during daylight.

As the number of minesweepers increased in all the maritime theaters, they moved to the planned clearing of mine-endangered areas. While in the Arctic and Black Seas this was not done systematically, and only with the appearance of a real threat, on the Baltic it was done regularly.

Of great interest was the organizing of the fight against influence mines and which was developed with the appearance of the first influence sweeps. In June 1942 and March 1943, the first guiding documents were introduced which generalized the experience of destroying the influence mines.(10) The sweep procedures were worked out according to these. Initially, in a dangerous area, high-speed wooden launches conducted maneuvers. Employing depth charges, they either caused the detonating of the mines or put them out of operation. After this the sweeping was carried out with a magnetic or coil sweep and, finally, with the aid of sweeping barges. Subsequently, the scale of sweeping for the influence mines rose. In the Baltic in the area of Kronstadt, Tallinn and Paldiski, sweeping from above the ice became widespread as well as the destruction of mines from the shore with the aid of a shore coil sweep.

With the start of the Soviet Army offensive on the maritime sectors, sweeping became different and was more active, decisive and larger-scale. At times, in extensive areas which were particularly mine-dangerous, this assumed the form of operations which could involve three and more minesweeping divisions (over 30 pennants), several regiments of fighter, bomber and ground attack aviation, divisions of torpedo or patrol boats and shore artillery. Here the minesweeper divisions were formed up in a single large sweep order and this not only guaranteed the dependable clearing of the area of mines and a great width of the swept zone, but also increased the safety of the ships and launches. Thus, in the southwestern part of Narva Bay, the sweepers were covered by a group of smoke-laying launches as well as 10-12 patrol and torpedo boats. With the detection of the enemy the "small hunters" moved in front of the sweep group and set a smokescreen at a distance of 10-20 cable lengths from it. They also provided fire support for the torpedo boats which attacked the enemy antisweep forces.(11) Since the sweeping work was often carried out in an enemy operational zone with its resistance and the extensive use of dummy mines or shallow mines, in organizing the sweeping it was essential to search for new tactical procedures. In particular, in the operations in Narva Bay in the trawl orders provision was made for a special cover for the lead ship using the sweep of a shallow-draft sweeper boat. The

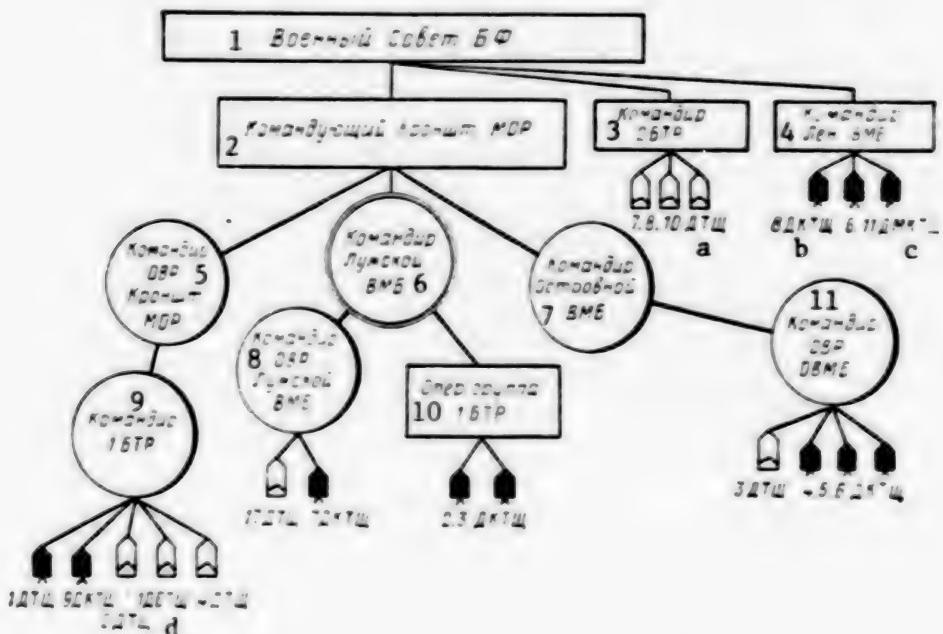
remainder were covered by the sweep of the boat ahead and this ensured dependable clearing of the channels under the conditions of a high density of obstacles and security for the sweepers against mines.

The cover of the sweeping ships from the air was organized by the staff of an air regiment or division. This was carried out by having the aircraft patrol in the sweep area as well as by alert duty of groups of ground attack planes at their own airfields with the combat sorties of these made upon the request of the commanders of the brigades or bases. The call was made by the liaison officer from the Air Forces or the divisional signalman through the staff of the air division with the indicating of the weather conditions in the operational area. With nighttime sweeping, for reconnaissance individual MBR - 2 were assigned and these carried illuminating flares; at the airfields groups of other aircraft were in a high state of alert.

Over the course of the war the organization of the sweep forces was changed. This was determined by the situation, by the number of minesweepers and the tasks to be carried out. Initially the sweeping ships were part of the forces of the OVR or the naval bases. With the deterioration of the mine situation, a decision was taken to centralize the sweep forces. In 1941, sweeping brigades appeared on the Baltic and Arctic, and in 1944, on the Black Sea. Particular attention was given to the functioning of the repair facilities for rapidly rebuilding the damaged ships and launches as well as replacing unusable sweeps and various instruments.

Command over minesweeper operations was assigned to the staffs of the OVR or naval bases and later on to the staffs of the minesweeping brigades. The command post was frequently located on shore and the staff was unable to provide direct leadership at sea. The commanders of the minesweeper divisions received their missions not long before setting to sea. At the same time, they were acquainted with the intelligence data concerning the sweep area, information about the enemy and their own forces cooperating with the minesweepers. When necessary they received additional instructions at sea by radio. The command frequently went to sea and this helped ensure effective, continuous, flexible and secure command the order of which was generally as follows (see the diagram). The staffs of the OVR or naval bases commanded the minesweepers which had been brought together in divisions. Most often the staffs worked out battle orders which determined the nature, the aim and the date of execution of the task. In individual instances orders (in code or orally) were sent out for pending sweeping with subsequent confirmation of their receipt. On the basis of the battle order or instruction, the brigade staff drew up a written assignment for the commanders of the sweeper divisions and this gave the following: the mission, as well as the methods and date of its execution, the forces involved, the organization of command and communications. Appended to the assignment was a drawing of the area (channel) to be swept and a sweeping planning table. In addition, the division commanders received oral instructions and explanations and they in turn instructed the commanders of the ships (boats), establishing the sweeping procedure. If mines were to be cleared in an extensive area, the division commander drew up a sweep plan. Sometimes several divisions were involved in the sweeping. Their actions were coordinated by the brigade commander through his field staff or one of the division commanders who was assigned as the

senior officer and who daily reported by radio to the brigade chief of staff on the carrying out of the mission and also set for the following 24 hours the amount of work, the area (channel), the depth of sweeping, the number, type and coordinates of swept mines.



## Organization of Sweep Forces of Baltic Fleet in May 1944\*

Key: 1--Baltic Fleet Military Council  
2--Commander of Kronstadt MOR  
3--Commander of 2d Sweep Brigade  
4--Commander of Leningrad Naval Base  
5--Commander of OVR of Kronstadt MOR  
6--Commander of Luzhsk Naval Base  
7--Commander of Ostrovnyy Naval Base  
8--Commander of OVR of Luzhsk Naval Base  
9--Commander of 1st Sweep Brigade  
10--Operations group of 1st Sweep Brigade  
11--Commander of OVR of Ostrovnyy Naval Base  
a--Minesweeper Division  
b--Division of minesweeper boats  
c--Division of magnetic minesweeper boats  
d--Division of coastal minesweepers

\* The diagram was compiled from data of the Central Naval Archives, folio 9, file 34180, sheet 74; folio 2, inv. 6, file 198, sheet 17; file 204, sheet 4.

For preventing the hitting of mines, the ships and vessels were escorted behind sweeps in the system of antimine defense which, as a rule, was organized by the OVR staff. The vessels and transports were organized into convoys and combat ships traveled to their destinations behind sweeps individually or in groups. During the first months of the war, due to the bad situation developing on the maritime sectors as well as due to the lack of support forces, chiefly aviation, there were flaws in the organization of the escorting. At times, the loss of several ships and vessels was the result of this. With an improvement in the organization, the number of such cases markedly declined. This was achieved primarily by establishing a system of monitored channels and this ensured generally good conditions in the operational zones of the fleets.

In the Baltic and Northern Fleets, the difficult mine situation and the physicogeographic conditions led to the necessity of organizing antimine defense for submarines in their deployment. In the Northern Fleet this task was carried out in a majority of instances by degaussing and escorting the submarines behind sweeps in the limited sector of Polyarnyy--Barents Sea, but not more than 20 miles offshore, as well as by using (in 1943) sonars for crossing enemy minefields along the coast of Norway. The antimine defense of submarines in the Baltic was a more complicated group of measures. This included: reducing the magnetic and acoustical fields of the submarines; employing mine deflectors, isolating wooden strips and special coverings; selecting the proper routes and depths for the breakthrough of the submarines; escorting the submarines behind sweeps on the sectors Leningrad--Kronshtadt--Lavensari; air reconnaissance of the Gogland Antisubmarine Barrier; bombing barriers in the aim of their subsequent thinning out.

Thus, the effectiveness of antimine defense was determined primarily by its prompt and skillful organization which ensured high effectiveness and reliability in combating the enemy mine weapons; it made it possible to consider the unique features of the situation, the geographic features of the maritime theaters and individual areas; it provided an opportunity to make most efficient use of the available forces for clearing mines from the ports and naval bases, bays, harbors, coastal and seaward zones with intense navigation. Antimine defense was organized by the command of the fleets, the river and lake flotillas, the MOR and naval bases. It, in turn, was supported by the prompt elaboration and issuing to executors of orders, instructions, tables, maps and other documents, by assigning both basic forces as well as forces for covering from the air and from the sea, and by organizing a command for these forces which corresponded to the situation and to the available opportunities. In organizing PMO during the years of the Great Patriotic War it became necessary to include in the fleets and flotillas a sufficient number of minesweepers capable of carrying out the task of destroying mines effectively, equipping the ships and boats with the necessary number of sweeps in accord with a precise calculation and the particular features of the regions to be swept and establish repair facilities for rebuilding damaged boats and equipment.

FOOTNOTES

1. TsVMA [Central Naval Archives], folio 45, inv. 34959, sheet 453.
2. Ibid., folio 2, inv. 1, file 520, sheet 40.
3. Ibid., folio 9, file 34180, sheet 37.
4. Ibid., folio 348, inv. 13, file 1, sheet 14; folio 1507, inv. 1, file 2, sheets 53-66.
5. I.A. Kozlov, V.S. Shloomin, "Krasnoznamenny Severnyy flot" [The Red Banner Northern Fleet], Moscow, Voyenizdat, 3d Revised and Supplemented Edition, 1983, pp 117, 120.
6. TsVMA, folio 2, inv. 1, file 575, sheets 164, 184.
7. Ibid., inv. 6, file 318, sheet 44.
8. Yu. Mayster, "Voyna na more v vostochno-yevropeyskikh vodakh 1941-1945 gg." [War at Sea in the Eastern European Waters 1941-1945], Translated by the Central Naval Bureau, Leningrad, Vol 1, 1959, pp 149, 150.
9. TsVMA, folio 506, inv. 36, file 136, sheets 4, 11.
10. Ibid., folio 1507, inv. 1, file 161, sheet 38; file 163, sheet 470.
11. Ibid., folio 345, inv. 1, file 31, sheet 41.

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## EXPERIENCE OF CONVERTING SOVIET NATIONAL ECONOMY FROM PEACETIME TO WARTIME STATUS

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[Article, published under the heading "Military Economy and Rear Services," by Col L.G. Ivashov, candidate of historical sciences: "From the Experience of Converting the Soviet National Economy From Peacetime to Wartime Status"]

[Text] The treacherous attack by Nazi Germany on the Soviet Union, the forced retreat by the Soviet Army to the east during the first months of the war and the loss of the most important economic regions significantly complicated the task of shifting the USSR national economy from a peacetime status to a wartime one. For most quickly carrying this out a number of immediate measures had to be executed, the most important of these being: the reorganization of the state and economic system, the mobilization of the economy and the relocating (evacuation) of the productive forces from the threatened areas to the east.

The reform of the state and economic system was carried out in the aim of creating the most efficient system under wartime conditions for managing all spheres of life and activity of the Soviet state. This was based upon the centralizing of leadership over the Armed Forces and the national economy and the maximum possible concentration of all the nation's material resources for defeating the aggressor. In accord with the demands of wartime, the state and party bodies, the system for managing production and transport as well as planning and supply were reorganized.

All power in the nation was concentrated in the hands of the State Defense Committee (GKO) which was formed on 30 June 1941 by a joint decision of the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee, the Presidium of the USSR Supreme Soviet and the Council of People's Commissars [SNK]. The GKO included as members prominent state and party figures who were members and candidate members of the Politburo of the Party Central Committee. The GKO was headed by I.V. Stalin. The GKO directed the work of the USSR Gosplan, the people's commissariats and departments and all the nation's economic organizations and provided direct leadership over the production of the most important types of weapons and ammunition as well as rail transport.

In the aim of increasing efficiency in examining arising questions, special committees and commissions were set up under the GKO.

In working to convert the economy to a wartime footing, the GKO relied on the national economic management bodies, the central committees of the Union republic communist parties, the party kraykoms and obkoms. The first secretaries of the party obkoms and kraykoms, as a rule, were the representatives of the GKO on the spot. Party organizers from the VKP(b) Central Committee were sent to 1,170 industrial enterprises. The activities of all the party committees were aimed at the fastest conversion of the national economy. Defense committees were organized in more than 60 major cities in the front area and these directed the reorganization of the economy and coordinated the activities of the party, soviet and economic bodies in mobilizing the resources.

On 24 June 1941, the VKP(b) Central Committee and the USSR SNK formed the Evacuation Council the membership of which as the military-economic plan was carried out had to be strengthened with economic workers and trade union representatives. By the GKO Decree of 16 July, the Evacuation Council was reorganized. It included the first secretary of the AUCCTU N.M. Shvernik (chairman), A.N. Kosygin and M.G. Pervukhin (deputy chairmen), A.I. Mikoyan, M.Z. Saburov and others. Evacuation commissions were formed in the people's commissariats, the frontline republics and oblasts, while evacuation points were set up at major railroad junctions, stations and sidings responsible for the prompt receiving and dispatch of trains (transports) carrying personnel, equipment and materiel. Responsibility for the location, rapid reconstruction and starting up of the evacuated enterprises was entrusted to the Deputy Chairman of the USSR SNK and Chairman of the USSR Gosplan, N.A. Voznesenskiy.

A number of committees was also organized to carry out narrower but important national economic tasks: the Committee for the Unloading of Transit Freight, the Committee for the Evacuation of Food Supplies, Textile Equipment, Manufactured Goods, Raw Products and Other Commodities, the Food and Uniform Supply Committee and others.

Under the Bureau of the USSR SNK they formed the Committee for the Allocation of Manpower and for coordinating the work of all types of transport under the GKO, there was the Transport Committee.

Within the people's commissariats there was a sharp reduction in the number of managerial personnel, intermediate units were abolished and the production management unit was strengthened. At the same time, the rights of the department leaders were broadened and the degree of their independence and responsibility was raised. On 1 July 1941, the USSR SNK adopted the Decree "Governing the Broader Rights of the USSR People's Commissars Under Wartime Conditions." The people's commissariats were given the right to independently resolve questions concerning the distribution and redistribution of material and financial resources required to carry out the production and construction plans. A number of new people's commissariats was organized including for the tank industry and for mortar weapons. The positions of people's commissars for the leading sectors were boldly filled by talented and energetic leaders capable of organizing production under difficult conditions and carrying out

the adopted decisions. Virtually all of them were members or candidate members of the VKP(b) Central Committee. The most crucial areas of reorganization were headed by prominent party and state leaders such as: A.A. Andreyev, N.A. Voznesenskiy, L.M. Kaganovich, G.M. Malenkov, A.I. Mikoyan, V.M. Molotov and others.

With the start of the war all the leading people's commissariats were switched to around-the-clock work. The decrees and orders of the central bodies (primarily the GKO), were immediately reworked into specific orders and instructions which within a few hours were given to the executors. The role of planning and labor discipline was decisively increased in all units of the state and economic apparatus. Quotas for the output of defense products and particularly weapons and military equipment were an unbreakable law for a people's commissariat, main directorate and enterprise. Strict administrative and party control was established over the fulfilling of military orders.

In a short period of time the state apparatus had been converted to wartime conditions and its structural forms changed in such a manner so that the management of the difficult economic and social processes could be carried out more efficiently. Subsequently, during the entire war, national economic management remained firm and steady.

The mobilization of the economy was one of the most difficult and immediate tasks. Its essence was to convert all the national economic sectors and its institutions from a peacetime to a wartime status, to adjust the existing national economic mobilization plans and adopt new ones, and to convert production capacity of industry, material resources and manpower to supporting military production and the needs of the army. Here particular attention was paid to the defense industry.

The converting of the economy to a wartime status was caused by the following: by the high level of mechanizing the army which required an enormous amount of complex military equipment and weapons; by the large size of the Armed Forces; by the large, sharp increase in the demand for various materials and by the necessity of quickly shifting all material resources to the needs of the army; by the losses suffered by the national economy as a result of military operations.

During the first months of the war particularly great difficulties arose in supplying the operational army and the newly formed formations and units with weapons, combat equipment and ammunition. The supplies stockpiled in peacetime in terms of their volume and range could not replenish the losses suffered while the production capacity of the enterprises filling the military orders had been significantly reduced. On the territory occupied by the enemy in 1941, before the war lived 40 percent of the population, some 68 percent of the iron, 58 percent of the steel and 60 percent of the aluminum were cast and 63 percent of the coal was mined.(1)

Production stocks declined by 28 percent in comparison with the prewar level. The output of industrial product dropped by 2.1-fold from June through November 1941, while the production of nonferrous metals declined by 430-fold. The length of the railroad track on the territory occupied by November 1941

comprised 41 percent of the length of all the Soviet railroads.(2) Such major industrial areas as the Moscow, Leningrad and Tula were in the area of military operations and these represented the main machine building centers of the nation.

The Communist Party, having thoroughly assessed the seriousness of the arising situation, from the first days of the war energetically set to reorganizing the economy. On 22 June 1941, at a meeting of the people's commissars of the defense sectors of industry, N.A. Voznesenskiy set the task of working out within 24 hours plans for a maximum increase in weapons production.(3) On 23 June, the Politburo of the VKP(b) Central Committee put into effect a mobilization plan for ammunition production, having placed responsibility for fulfilling it on the party organizations of Moscow, Gorkiy, Sverdlovsk, Chelyabinsk, Novosibirsk and other industrial centers.

The Directive of the VKP(b) Central Committee and the USSR SNK of 29 June 1941 as well as the radio speech of I.V. Stalin on 3 July 1941 became the basic document which set the beginning to converting the economy from peacetime to wartime. These set out the main areas, the character and scale of practical measures to rapidly organize a smoothly-operating military economy.

On 30 June, the GKO approved the national economic mobilization plan for the third quarter of 1941, and in this the material, financial and human resources were redistributed again and concentrated on the construction and development of the most important defense projects, chiefly in the areas of the Volga, Urals and Siberia. Secondary construction sites were to be mothballed. Plants producing military equipment, weapons and ammunition, power plants, metallurgical, mechanical and oil refining production and railroads were declared to be shock projects. The defense industry enterprises were converted to the mass manufacturing of the most advanced and efficient types of weapons.

On 16 August, the GKO approved the new military-economy plan for the fourth quarter of 1941 and for 1942; this envisaged the establishing of a major production base in the eastern regions of the USSR (in the Volga, the Urals, in Western Siberia, Kazakhstan and Central Asia) and this base would not only compensate for the temporarily lost capacity but would also ensure a material and technical superiority over the economy of Nazi Germany. The plan quotas envisaged accelerated development in this region of weapons and military equipment production, the broadening of the fuel-power and metallurgical base as well as other sectors of industry, agriculture and transport. The following decrees of the VKP(b) Central Committee and the USSR SNK were adopted "On the Production of Armor and KV Tanks," "On Increasing the Output of KV, T-34 and T-50 Tanks, Artillery Tractors and Tank Diesels in the 3d and 4th Quarters of 1941"; the GKO Decrees confirming the mobilization plan for producing aircraft and aviation engines for September-December 1941, the schedules for the expanded production of aircraft, tanks, weapons and ammunition; for rebuilding the plans evacuated to the Volga, Urals, to Siberia, Central Asia and Kazakhstan as well as the procedure for relocating the evacuated enterprises; Ukases of the Presidium of USSR Supreme Soviet "On Marshal Law," "On the Working Hours of Workers and White Collar Personnel in Wartime," "On Mobilizing the Able-Bodied Urban Population for the Wartime

Period for Work in Production and Construction," as well as a number of other important documents.

The evacuation of industrial enterprises, the population and materiel from the frontline zone into the interior of the nation was carried out in the aim of preserving the main productive forces and their subsequent employment in new regions. The Evacuation Council set the time, the evacuation procedure and the destination. Its decisions which were approved by the government were obligatory for the party, soviet and economic bodies.

The plans for relocating the most important facilities were set by the VKP(b) Central Committee, the GKO, and the USSR SNK. On 27 June 1941, the VKP(b) Central Committee and the USSR SNK approved the Decree "On the Procedure for Evacuating and Relocating Human Reserves and Valuable Property." On 29 June, the Politburo of the VKP(b) Central Committee approved a decree on moving the aviation industry enterprises to the rear and accelerating the construction of duplicate aviation plants in the eastern regions. On 3 July the GKO adopted a decision to evacuate 26 plants of the People's Commissariat for Armament from the central regions and from Leningrad. Enterprises producing tanks, tank engines as well as metallurgical, machine tool building, tool and other plants were evacuated into the distant rear. Defense industries were evacuated first and set up in the rear. Simultaneously, scientific institutions, agricultural products, livestock and cultural properties were evacuated from the danger zone. Regardless of the extremely short period of time, the active resistance of the enemy and other unfavorable factors, the evacuation was carried out in an organized and precise manner. "Under a most difficult situation, in a time which now seems fantastic, we were able to transport into the interior of the nation more than 1,500 major plants, significant material resources and valuables,"(4) commented M.S. Gorbachev in a report at a ceremony devoted to the 40th anniversary of the victory of the Soviet people in the Great Patriotic War.

Work went on with equal intensity at the places where the evacuated enterprises were being set up and where new production capacity was being put into operation. The local state and party bodies mobilized the workers to unload and install equipment, build plant buildings, housing, and provided help to the administration of the arriving enterprises in staffing, in housing and feeding the workers, engineers, technicians and their families. In a short period of time the evacuated enterprises were in operation and began producing products.

The gigantic reorganization of the economy touched virtually all the nation's industrial enterprises. The metallurgical plants began producing high-grade steels and rolled products essential for producing combat equipment and weapons. Thus, the collective of the Magnitogorsk Metallurgical Plant during the first year of the war was able to develop production of over 40 grades of steel. The Urals machine building plant in a short period of time began manufacturing turrets and armored hulls for tanks. The tractor and machine building plants converted to producing tanks and armored vehicles. Some 382 enterprises of 34 people's commissariats and departments in 1941 were involved in producing ammunition.(5) The production of machine tools and production equipment for military plants rose. During the third quarter of 1941, of the

22,000 produced metal-cutting machines, 14,000 went for the needs of the people's commissariats of ammunition, armament and the aviation industry.(6)

In the aim of increasing weapons output, plants were rapidly built for manufacturing defense products, production capacity at existing enterprises was increased, production reserves were sought out and subcontracting arrangements widened. For building defense enterprises, special construction-installation units were established by the decision of the GKO.

Adjustments were made in the weapons system. It was essential to abandon individual models which were difficult to produce or required large material outlays and imported raw materials. Certain weapons were simplified and the requirements for finishing them reduced. Here its basic combat qualities did not suffer. Thus, while it required 2,080 parts to manufacture a 76-mm cannon of the 1936 model, the 1939 model required 1,057 parts, and for producing one of the best cannons from the period of World War II, the 76-mm cannon of the 1942 model (ZIS-3), just 719 parts were required.(7) In producing weapons, maximum use was made of local resources and materials, and advanced equipment and progressive production methods were constantly introduced.

With the start of the war, a difficult situation arose in agriculture. In 1941, the number of working-age males in the countryside had dropped to 3 million men. Deliveries of tractors and agricultural machinery virtually ceased and the power resources were sharply reduced. However, under these conditions, the kolkhoz workers provided the front and the rear with food and raw materials. Around 2.4 million head of livestock, thousands of agricultural machines and tractors and millions of quintals of grain and other farm products were evacuated into the interior of the nation.(8)

On 20 July 1941, the VKP(b) Central Committee approved a plan for increasing winter grain crops in the oblasts of the Volga, Urals, Siberia and Kazakhstan. A number of additional measures was adopted to widen agricultural production, to increase labor discipline on the kolkhozes, to increase the delivery quotas for the supplies of the Soviet Army and develop subsidiary farms at industrial enterprises and individual gardening.

The mobilization and military reorganization of transport operations had to be carried out under the conditions of a rapid increase in the amount of shipments. Here the basic burden fell on the railroads. In recalling the instructions of V.I. Lenin that rail transport is the most important material factor of the war,(9) the VKP(b) Central Committee and the GKO took immediate measures to increase railroad capacity to protect and move into the interior of the nation the rolling stock and equipment of the railroad stations, depots and bridge elements. Material resources were allocated from the state reserves for aiding the transport people's commissariats. Responsible party and transport workers were sent to the key junctions. A traffic schedule was introduced which ensured priority for the military freight and troop trains.

The measures adopted by the Communist Party and the heroic efforts of the transport and rear workers made it possible to carry out tasks of exceptional complexity: to provide the required troop movements, the supply and regrouping of the troops; to evacuate millions of people, over a thousand

enterprises and millions of tons of valuable materials; deliver the most diverse national economic freight to its destination.

With the start of the war the work of the nation's scientific institutions was revised in accord with the new demands. On 23 June 1941, a decision was adopted at an enlarged session of the Presidium of the USSR Academy of Sciences to mobilize the scientific forces and decisively reform the scientific-research institutions for satisfying the needs of defense production and the front. In the aim of coordinating the scientific work and establishing ties between scientists, the people's commissariats, the industrial enterprises and the front, the position was introduced of the GKO representative for science. The prominent Soviet scientist S.V. Kaftanov was appointed to this position. A Scientific-Technical Council was established under the GKO representative. It defined the most urgent subjects, the specific executors and ensured the rapid use of the scientific research results for the needs of defense. With its aid, cooperation was ensured along the lines: order from the front--scientific laboratory--design bureau--production. Hundreds of design bureaus, scientific research institutes, VUZes were evacuated to the east of the nation, and their equipment and libraries were also moved.

Proposals to enlarge the raw material base and set up industry in the east, the design improvement of weapons, the elaboration of highly productive production processes, the seeking out of countermeasures against enemy weapons and establishing the ways and means for altering the balance of forces in favor of the Soviet Armed Forces--this is a far from complete list of the most important tasks which the scientists and designers had to carry out during the period of adjusting the economy to a wartime footing. And these tasks were successfully carried out.

The Party raised up and inspired the Soviet people to heroic feats not only on the front but also in the rear. The party organizations from the very first days of the war initiated active work to reshape the peacetime psychology of the Soviet man. A feeling of responsibility for the fate of the state was indoctrinated in all categories of the population, from juveniles to pension-age persons. Throughout the nation rang the mobilizing appeal from the party: "What are you doing for the front?" The war compressed time, it greatly intensified the working pace, it obliterated the boundary between day and night and excluded everything subsidiary and secondary. Millions of rear workers under the rain and in the wind, in heavy frosts at the new sites set up machine tools and equipment and without waiting for the walls of the building to be erected, began producing products.

Even in those exceptionally difficult conditions, the Party and government did the maximum possible to improve the working and living conditions and to supply the workers. At the outset of 1942, the GKO and the USSR SNK adopted a decision for organizing worker supply sections (orses) at the industrial enterprises. At the same time, a network of preventoria and night sanatoriums was set up so that the workers after hard work for several hours or days could recuperate their strength and return to production. Other social questions were also resolved.

In skillfully employing the advantages of the socialist system, the Party within a year was able to shift the nation's economy to a wartime status. This was also aided by the mass labor heroism of the Soviet people. Beginning in December 1941, the decline in industrial production was halted and from March 1942, its volume began to grow rapidly with the output of military products just in the eastern regions of the nation in March 1942 reaching the production level which had existed at the start of the war on all Soviet territory.(10) By the summer of 1942, the conversion of the national economy to a wartime footing had basically been complete. Although it was not possible to achieve the prewar production level of the most important types of industrial product, the output volume of weapons and military equipment grew constantly and by the end of 1941 surpassed the prewar level (Table 1).

Table 1

Increase in Production Volume in Most Important Military Industry Sectors  
in Percent of 1940\*

Industry	1941	1942	1943
Aviation . . . . .	126	178	223
Tank . . . . .	112	184	234
Weapons . . . . .	145	191	200
Ammunition . . . . .	152	218	264

\* P.Ya. Chadayev, "Ekonomika SSSR v gody Velikoy Otechestvennoy voyny (1941-1945 gg.)" [The USSR Economy During the Years of the Great Patriotic War (1941-1945)], Moscow, Mysl, 1985, p 222.

The management bodies directed by the party Central Committee, the GKO and the SNK ensured the integrating of all the nation's forces and resources for carrying out the wartime tasks. The high degree of centralizing economic management, rigid control over execution and responsibility for fulfilling the plan quotas as well as a state approach in the allocating of material and labor resources between the people's commissariats and even the enterprises made it possible for the GKO and USSR SNK to respond effectively to all changes in the production sphere. At the same time, such centralizing of management provided an opportunity for the people's commissariats to act with initiative and show a creative approach to the search for new decisions. The state planning committee was the economic staff and it concentrated in its hands all the threads of the economic life of the fighting state.

The conversion of the economy from a peacetime to a wartime status made it possible also to disclose a number of bottlenecks and oversights in readying the national economy to operate under wartime conditions. Thus, in the prewar years the production base and the raw material supplies were unjustifiably concentrated chiefly in the western oblasts. With the start of the reorganization of the national economy, there was an acute shortage of machine tools for the newly established and reconstructed enterprises as well as

supplies of certain types of stock, industrial raw products and strategic materials. Not enough attention was paid to establishing ammunition production as well as duplicate enterprises to produce the major types of weapons. There was a certain lack of coordination among the people's commissariats in cooperating on weapons production. These and other shortcomings had to be eliminated in the course of the war.

The Great Patriotic War clearly and convincingly confirmed the words of V.I. Lenin that "for waging war truly there must be a strong, well organized rear.(11) The attack by Nazi Germany on the USSR confronted the Soviet economy with extraordinarily difficult tasks, including: in a short period of time, with smaller base industrial sectors in comparison with the enemy, to provide the Soviet Armed Forces with the required amounts of equipment, weapons and other materiel. The nation's rear successfully carried out this task and this to a significant degree was aided by the rapid conversion of the economy to a wartime status and by the turning of the eastern regions of the nation into the main arsenal of the operational army.

In the course of the Great Patriotic War, the Soviet Union won not only a military and political victory over Nazi Germany but also an economic one. The Soviet economy was more productive, more organized and more flexible. Regardless of the fact that Nazi Germany had converted its economy to a wartime footing ahead of time, it employed the economic capabilities of the captured and allied European nations for the needs of the war, in the very difficult economic duel, military-technical superiority over the enemy was achieved and the level of Soviet production substantially surpassed the level of the Nazi German defense industry. Here one could fully feel the advantages of the planned socialist economic system making it possible with the outbreak of the war to rapidly concentrate the main capacity and resources in producing defense products.

In reducing the time for converting the national economy to a wartime status, an important role was played by the early preparation of industry to work under wartime conditions, by the establishing of the requisite reserves of production capacity and raw material supplies, by the development of production processes to turn out defense products, as well as by the training of specialists and highly skilled workers.

The experience of the functioning of the Soviet economy during the years of the last war serves as a good guideline in carrying out the most important defense and economic tasks at the present stage in the organizational development of the Soviet Armed Forces.

#### FOOTNOTES

1. "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voyenizdat, Vol 4, 1975, p 152.
2. N. Voznesenskiy, "Voyennaya ekonomika SSSR v period Otechestvennoy voyny" [The USSR Military Economy During the Period of the Patriotic War], Moscow, Gospolitizdat, 1948, pp 42-43.

3. "Sovetskiy tyl v Velikoy Otechestvennoy voynye" [The Soviet Rear in the Great Patriotic War], Moscow, Mysl, Book 2, 1974, p 78.
4. M.S. Gorbachev, "Bessmertnyy podvig sovetskogo naroda" [An Immortal Feat of the Soviet People], Moscow, Politizdat, 1985, p 9.
5. G.S. Kravchenko, "Ekonomika SSSR v gody Velikoy Otechestvennoy voyny (1941-1945 gg.)" [The USSR Economy During the Years of the Great Patriotic War (1941-1945)], Moscow, Ekonomika, 1970, p 104.
6. N. Voznesenskiy, op. cit., p 38.
7. "Report on Technical Work of the People's Commissariat of Armament During the War Years," Tsentralnyy gosudarstvennyy arkhiv narodnogo khozyaystva [Central State Archives of the National Economy] (TsGANKh), folio 8157, inv. 1, stor. unit 3078, sheet 22.
8. "Istoriya vtoroy mirovoy..." Vol 4, p 140.
9. V.I. Lenin, PSS [Complete Collected Works], Vol 38, p 400.
10. N. Voznesenskiy, op. cit., p 436.

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## NOTES ON THE BIOGRAPHY OF G.K. ZHUKOV

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 6, Jun 87 (signed to press 25 May 87) pp 46-54

[Article, published under the heading "From Unpublished Manuscripts," by K.M. Simonov "Notes on the Biography of G.K. Zhukov"; the article is the first of a series]

[Text] [Editorial Introduction] The life and activities of MSU G.K. Zhukov have always attracted and do attract the attention of Soviet people. On the 90th birthday of the famous general, new works have been published which disclose more fully his personality and deal with the lesser known facts of his biography.

K.M. Simonov also dreamed of telling about G.K. Zhukov and the former had repeatedly met with him at Khalkhin-Gol and also in the postwar years. Unfortunately, the writer was unable to carry out these plans. His notes remained on meetings and talks with Georgiy Konstantinovich [Zhukov] and these he turned over to the General Staff of the USSR Armed Forces with a request that they be published if possible.

At present, when in light of the decisions of the April Plenum of the CPSU Central Committee and the 27th Party Congress particular attention is being given to drawing lessons from the truthful treatment of historical experience, conversations with G.K. Zhukov help to look at certain events in the past from a new angle. Proceeding from this, the leadership of the General Staff and the Main Political Directorate of the Soviet Army and Navy have recommended that the manuscript of K.M. Simonov be published. The editors of VOYENNO-ISTORICHESKIY ZHURNAL are doing this with the approval of the writer's family.

The notes consist of two parts: "Meetings" and "Notes of Conversations." The first part basically lays out the memoirs of G.K. Zhukov involving events on the Khalkhin-Gol River while the second contains comments by the marshal on prominent leaders of the Communist Party, the Soviet state and the Armed Forces with whom he happened to work. Possibly these evaluations and judgments in a number of instances are debatable, subjective and incomplete. In the foreword, K.M. Simonov has pointed out that he is not the biographer of Georgiy Konstantinovich Zhukov and what he is writing about him is not a

biography but precisely the notes for it and an attempt to look at this outstanding military figure through the eyes of the author.

From this issue the journal editors are starting to print the notes of K.M. Simonov. [End of Editorial Introduction]

[Foreword by K.M. Simonov]

This first part of the notes involves my meetings with Zhukov at different years between 1939 and 1967.

I am not the biographer of Georgiy Konstantinovich Zhukov and what I am writing about him is not a biography but precisely notes for it, and an attempt to look at this outstanding leader through the eyes of a writer.

I want to add that I was a participant in the war, a man of his generation and my perception of Zhukov's personality does not come down to personal meetings and talks. For many years we have heard and read a great deal about Zhukov, and in my eyes, as in the eyes of others, an image of this major personality has gradually come into being. But this is not a subjective impression from personal meetings, rather a more objective and broader one linked with the people's attitude and the prestige which even in the course of the Great Patriotic War was given to Zhukov as one of the people's heroes and independently of the fact that this renown continued to hold its own. A particle of this general feeling is present in my perception of Zhukov's personality.

#### Part 1: "Meetings"

1.

I arrived late at Khalkhin-Gol, at the end of the events. It was the days of our last, August offensive. The Japanese grouping had already been surrounded with a solid ring of Mongolian and our troops and they were hunting for it in the sand dunes to the east of the Khalkhin-Gol River and were storming the last hillocks remaining in the hands of the Japanese, the Remizovskaya, Peschanaya, Bezymyannaya....

I knew that our army group was under the command of Corps Cmdr Zhukov, that he was a cavalry man and had come here from the Belorussian Military District. Both in the troops and in our army editorial office he was spoken of with respect. It was said that he was curt and decisive, it was said that although much of the superior military leadership had descended on Khalkhin-Gol, it was Zhukov who made it understood that he himself was directing the military operations and he himself, so it was said, who had proposed the plan for encircling the Japanese. Other plans were also mentioned but Zhukov defended his own and there, in Moscow, Stalin and Voroshilov had approved his plan.

Later, when the surrounded Japanese had been finished off and not silence but rather the lull before a new storm was established on the front, in one of the conversations I heard confirmation of what I had been hearing previously.

In my notes about Khalkhin-Gol, the following note has survived:

"At one time during one of my trips to Khamar-Daba, I for the first time encountered in a military environment those same arguments concerning talents and abilities and almost in the same harsh terms used in the writer fraternity. I had not assumed I would encounter this in the war and was initially surprised.

"While waiting not for Ortenberg but for a Stavskiy, I was sitting in one of the staff tents and talking with the cavalry commanders. One of them, a colonel, who had served with Zhukov almost from the time of the cavalry army, convincingly and sharply said that the entire plan of surrounding the Japanese was Zhukov's plan, that Zhukov himself had drawn it up and proposed it, while Shtern had not been involved in this plan at all, that Zhukov had talent while Shtern was nothing special and that this was the case because--he knew this precisely--no one but Zhukov had been involved in this plan.

"The conversation did not take on a personal nature. If this had been the case, it would not be worth remembering. In the words of the colonel there was the same involvement and categoricalness which were frequently present in our own conversations, when we, young graduates of the Literature Institute, categorically defended the talents of our favorite poets and teachers and incidentally debunked all the rest."

I met Zhukov for the first time a week later, in the morning, after a special operation set for the previous night but at the last moment canceled against new, just arriving Japanese units. Let me give again a fragment from my Khalkhin-Gol notes.

"On the following day Ortenberg, Lapin, Khatsrevin and I were at Zhukov's. Ortenberg wanted to know how real, in the opinion of Zhukov, was the information about a pending Japanese offensive so as to give some guidelines for the paper.

"The staff, as before, was located at the same Khamar-Daba. Zhukov's dugout was new, seemingly fashioned from fresh logs a day or so before, very clean and well made, with a small passage, a curtain and, it seems, even a bed instead of a wooden bunk.

"Zhukov was sitting in the corner behind a small office-like desk. He probably had just returned from the bathhouse as he was red-faced, perspiring, without his field shirt but in a yellow flannel shirt tucked into his trousers. His broad chest stretched the shirt. Although he was a short man, sitting down he seemed very wide and tall.

"Ortenberg began the conversation. We pulled our places up into a circle. Zhukov fell silent. Caustic and impatient, Lapin began to ask questions. Zhukov still remained silent, looking at us and, in my opinion, thinking about something else.

"At that time one of the intelligence commanders came in with a report. Zhukov quickly read through the report, looked at the commander with an angry and lazy glance and said:

"As for the six divisions, it is all rubbish: we have discovered just two. The remainder is nonsense. All for prestige.'

"They are building castles in the sky,' said Zhukov, turning to Ortenberg and not paying attention to the commander.

"A silence ensued.

"May I leave?" asked the commander.

"Please do. Inform them over there not to make things up. If you have blank spots, be honest and let them remain blank spots and don't feed me stories about nonexistent Japanese divisions.'

"The officer left and Zhukov repeated:

"They are building castles in the sky. The intelligence boys,' and then he turned to Lapin and said:

"You ask if there will be a war?'

"Boris [Lapin] began to bustle and said that this was not merely out of curiosity but that Khatsrevin and he intended to go to the West because there, in the West, it seemed like events could occur. But if something were to happen here in the East, they would not leave. This is what he was asking about.

"I do not know,' said Zhukov rather gloomily. And then he repeated: 'I do not know, I think they are frightening us.'

"After a pause he added:

"I don't think anything will happen here. That is my personal opinion.'

"He emphasized the word 'personal' as if separating himself from anyone who thought differently.

"I think you can leave,' he said, as if completing the circle and inviting us to leave."

That was the first impression of Zhukov which made a deep impression in my memory. It has remained all the sharper as the next time I saw Zhukov was just 5 1/2 years later, on the day that Keitel, Stumpf and Friedeburg flew to Berlin to sign the act of unconditional surrender for the German Army.

However, let us deal with the impressions of May 1945 later.

Now, about another meeting with Zhukov, after the war, in October 1950.

I met Zhukov quite by accident for myself, in a crowd, at Kislovodsk. I knew that he was in command of the Urals Military District and was here for rest. He was not in uniform but rather civies and incidentally he wore these as easily as a uniform.

I realized that he might not recall my face and, in introducing myself said that I had been with him at Khalkhin-Gol.

"Yes, of course," said Zhukov, "and if I remember, we met later, during the war."

This was a natural mistake of his memory, as it seemed to him that I, like many other war correspondents, had been with him somewhere on the front.

I had to reply that this was not the case, that I had never met him during the war but only at its very end.

I asked if he could find me some time to answer certain questions about Khalkhin-Gol, having explained that I was working on a novel the heroes of which would participate in these events.

Zhukov hesitated a bit. I realized that during those years, after his release from the position of first deputy minister of defense, both his position and his spiritual state were not easy. It even seemed to me that at present he would refuse and not want to talk with me about Khalkhin-Gol or himself. However, after a brief silence he said:

"Alright."

I immediately set a time and place for the meeting.

There were two meetings, each several hours long, and one of these occurred in the presence of Ordzhonikidze's widow, Zinaida Konstantinovna, in the sanitorium where she lived.

Both meetings with Zhukov were written down by me immediately after our talks.

In recalling Khalkhin-Gol began with the end, with the scale of the defeat which the Japanese suffered.

"I recall we once had gone to the area of the Khaylastyn-Gol Stream. There, when the Japanese endeavored to break out of the ring, they were met by our 57th Division and they left so many killed there that if at night you drove over this battlefield you could hear the ribs snapping under the wheels of the vehicles. And the terrible smell of dead bodies....Do you remember how later, even after the talks, they dug up the bodies of their men who perished in the encirclement? They dug up so many that towards the end they would take a look and try to throw the earth back in order not to dig it up but rather put an end to it. Even they had had enough...."

After this he returned in the conversation to those events at the beginning of July 1939, when he had just arrived at Khalkhin-Gol and assumed command.

Even then at Khalkhin-Gol I had heard much about these events, about the Bain-Tsagan Engagement, or, as it was more frequently called then, the Bain-Tsagan Slaughter, our first major success after 6 weeks of fighting. The engagement occurred at a critical moment for us. The Japanese with large infantry and artillery forces were crossing to the western bank of the Khalkhin-Gol and were intending to cut off our units continuing to fight on the east bank of the river. We did not have either nearby or on the move, either the infantry or the artillery to prevent this. Only a tank and an armored brigade which were on the march were able to hurry up in time. But the military doctrine of those times made no provision for an independent strike by tank and armored units without infantry support.

In spite of this, having assumed all the particularly grave responsibility under these conditions, Zhukov from a march threw the tank and armored brigades against the Japanese.

Here is what he had to say about this 11 years later:

"At Bain-Tsagan, a situation had developed for us where the infantry had fallen behind. Remizov's regiment was behind. He still had one more day's move. The Japanese had already landed their 107th Division on this, our bank. They had begun the crossing at 1800 hours in the evening and had ended it at 0900 hours in the morning. Some 21,000 had moved across. Only some of the second echelons still remained on the other bank. They had pushed across the division and organized a double antitank defense, a passive and an active one. In the first place, as soon as their infantrymen had come up on this bank, they immediately dug their own circular antitank pits. You remember them. Secondly, they also pushed across their own antitank artillery, over 100 pieces. A threat had arisen that they would overrun our units on this bank and force us to abandon the bridgehead there, on the other side of the Khalkhin-Gol. All our hopes were on it, this bridgehead. In thinking about the future, this could not be allowed. I took the decision to attack the Japanese with Yakovlev's tank brigade. I knew that without infantry support it would suffer heavy losses but we consciously decided on this.

"The brigade was strong, around 200 vehicles. It deployed and set off. It suffered very heavy losses from Japanese artillery fire but, I repeat, we were prepared for this. The brigade lost one-half of its personnel killed and wounded and one-half of the vehicles, maybe even more. But we decided to do this. The armored brigades which supported the attack suffered even higher losses. The tanks were turning before my eyes. On one of the sectors 36 tanks had deployed and soon thereafter 24 of them were already on fire. But on the other hand, we had crushed the Japanese division. They were obliterated.

"When all of this had started I was in Tamtsak-Bulak. There I was informed that the Japanese were crossing. I immediately phoned Khamar-Daba and gave orders: 'Yakovlev's tank brigade is to go into battle.' It still had to cover 60 or 70 km and they went straight across the steppe into battle.

"When initially a difficult situation arose, when the Japanese had reached this bank of the river at Bain-Tsagan, Kulik demanded that the artillery be removed from the other bank, from the bridgehead remaining there, and all the artillery would disappear! I replied to him: If that is the case, then let us remove everything from the bridgehead, let us remove the infantry, too. I will not leave the infantry there without artillery. Artillery is the backbone of the defense and the infantry would be ruined there alone. Hence remove everything.

"Generally, he did not obey and refused to carry out this order and reported to Moscow that I considered it ill-advised to remove the artillery from the bridgehead. And this viewpoint won out."

Having described Bain-Tsagan, Zhukov suddenly recalled Maj Remizov, whose regiment was on the march too far away to arrive that day by the start of battle.

"Did you know Remizov?" he asked.

I said that he was no longer alive and I had only heard about him.

"He was a good man and a good commander," said Zhukov. "I was fond of him and loved visiting him. Sometimes I went over to have a drink with him. Remizov was a heroic man but he was killed stupidly, on the telephone. He had located his observation post wrongly. He was speaking on the telephone, the terrain was open and a bullet went right into his ear. On the spot."

"There was the following story about Remizov. When we were surrounding the Japanese, he rushed forward with his regiment pushing in deep. The Japanese immediately threw strong forces against him. We then pushed an armored brigade there which approached Remizov from two sides and broke through a passage. (Here Zhukov with his hands showed how the armored brigade broke open this passage.) They broke open a passage and gave him the possibility of retreating. A comrade sent a slanderous report about this to Moscow, proposing that Remizov be handed over to the court for his arbitrary actions and so forth....I felt that he should not be turned over to the court for this. I liked him. He wanted to push forward, and what sort of commander is it who in battle cannot make up his own mind to go forward, backward, to the right, to the left or anything? Do we need these? We need people with drive. And I made a counterproposal that Remizov be decorated. Then he was neither turned over to the court nor did he receive a decoration. Later he was posthumously awarded and given the Hero of the Soviet Union."

"The commander of the tank brigade, Brig Cmdr Yakovlev, was also a very brave man and a good commander. He also died stupidly.

"In the region of our central crossing, a group of Japanese, some 300 men, were breaking through. Not so many but it was a threat to the crossing. I ordered Potapov and Yakovlev, under their personal responsibility, to defeat this group. They began to assemble the infantry and organize an assault, and Yakovlev in so doing climbed up on a tank and was giving commands from there.

A Japanese sniper got him right on the spot. He was a very good combat commander."

"The Japanese during this period only once opposed us with their tanks. We had information that their tank brigade had arrived at the front. Having received this information we set out the artillery on the only likely tank approach, in the center, in the area of Nomon-Khan-Burg-Obo. The Japanese deployed and approached precisely on this sector. Our artillery troops hit them. I myself witnessed this battle. In it we burned up and hit around 100 tanks. Only one returned without damage. This we learned later, from different information. Battle was underway. The artillery troops phoned: 'Do you see, comrade commander, how the Japanese tanks are burning?' I replied, 'I see. I see....' one after another...all the artillery commanders phoned and they all wanted to boast how they were burning up these tanks."

"The Japanese, in essence, did not have tanks which merited this name. They made a push once with this brigade and then did not commit a single tank. The Japanese had good divebombers, although the Japanese largely bombed from set altitudes. They had good antiaircraft guns. The Germans had sent them their antiaircraft guns and tested them out under battle conditions."

"The Japanese had fielded two infantry divisions as the main force against us. But here one must remember that a Japanese division was, in essence, our rifle corps with 21,000 bayonets and 3,600 men of command personnel. In essence, we were opposed on Khalkhin-Gol by two rifle corps and in addition to them, separate regiments, security detachments, railroad detachments...."

In moving from recollections of the Khalkhin-Gol events to an assessment of them, Zhukov said:

"I feel that for their side this was a major reconnaissance in force. A serious feeling out. It was important for the Japanese then to put out feelers to find out whether we were capable of fighting them. And the outcome of the fighting on the Khalkhin-Gol subsequently determined their more or less restrained conduct with the start of our war against the Germans."

"I feel that if on the Khalkhin-Gol their affairs would have gone successfully, they would have initiated a further offensive. Their far-reaching plans included the capturing of the eastern part of Mongolia and coming out at Baykal and Chita, reaching the tunnels and cutting the Siberian Main Line."

"At Khalkhin-Gol we had a difficult time with supply. We were supplied from Borzya Station some 700 km away. The Japanese had two nearby railheads: Hailar some 100 km away and Halun-Arshan just 30 km. But by the end of the military operations on the Khalkhin-Gol the Japanese military leaders realized that with the then-existing level of technical equipping of their army, they were unable to successfully advance against us, although the regular Japanese divisions fought very well. It must be admitted that they were a good infantry and good soldiers."

Having turned to the tenacity of the Japanese soldiers and giving several examples of this tenacity, Zhukov involuntarily shrugged his shoulders and said:

"Generally, we do not show things correctly. Not long ago I was reading a novel. There Hitler was depicted at the start of the war the same way he was at the end. As is known, at the end of the war, when everything began to fall apart, he actually was quite different and actually appeared a nobody. But he was a bloody, tricky enemy and a strong military leader. Or, if one takes the Germans, of course, they did not always relate to him in the same manner and were not always negative. On the contrary. At first, they were ecstatic over him. Success came after success. He had great authority and the attitude toward him inside Germany and particularly on behalf of the German Military Command, varied at different stages. And when we depict him from the very start as something like an idiot, this belittles our own efforts. Whom did we defeat, they ask? Only a fool! At the same time, we had to deal with a severe, dangerous and terrible enemy. That is how we must depict things...."

These, then, were my notes of what Zhukov said about Khalkhin-Gol and in relation to Khalkhin-Gol then, in 1950, but he returned to recollections about the Khalkhin-Gol events, if my memory serves me, later on in other years, in talking about different subjects.

At one of these talks, in the autumn of 1965, Zhukov, having recalled Khalkhin-Gol, again returned to the same subject, the truth or untruth in our assessments of the enemy.

"The Japanese fought fiercely. I am opposed to responding to the enemy pejoratively. This is not disdain for the enemy but rather an underassessment of it. And ultimately not only an underassessment of the enemy but also an underassessment of ourselves. The Japanese fought exceptionally stubbornly, basically with the infantry. I remember questioning the Japanese who had been waiting in the area of the Khaylastyn-Gol Stream. There they had been captured, in the reeds. They had been so eaten up by mosquitoes that they were literally covered with bites. I asked them: 'How did you allow the mosquitoes to eat you up so?' They replied: 'We were ordered to sit on patrol and not move. We did not move.' In actuality, they had been put out in an ambush and then forgotten about. The situation changed and their battalion was driven back, but they still sat there, for another 2 days, without moving until we took them. They had been half devoured by the mosquitoes but they continued to carry out the order. These were real soldiers. Like it or not, one must respect them."

In continuing to speak on this question, Zhukov again, as in 1950, made a transition from the war against the Japanese to the war against the Germans.

"I remember a captured German whom I interrogated at Yelnya. This was one of the first tank troops captured there. Young, tall, handsome, blond, a Neibelung and even the picture 'Die Niebelungen' came to mind which I had seen at the movies in the 1920s. In a word, an exemplary model. I began questioning him. He replied that he was the driver of such and such a

company, such and such a battalion and such and such a tank division. I asked him the following questions but he did not reply.

"Why do you not reply?" He was silent. Then he stated: "You are a military man and you should understand that I, as a military man, have already answered all that I must answer for you, that is: who I am and to what unit I belong. I cannot answer any other questions. Because I have given my oath. And you do not have the right to ask me, knowing that I am a military man and you are not right to ask of me to violate my duty and be deprived of my honor."

"Then I asked him did he know with whom he was talking?

"No, he did not. 'Inform him that I am Army Gen Zhukov.' Having listened to the interpreter, he replied: 'I do not know you. I know my own generals. I do not know your generals.'

"A fine fellow! It was rare to see such boldness. How could one not respect him? One could not, but."

"I said to him: 'If you do not answer, we will execute you and everyone else.' He turned pale but did not give up. He said: 'Well then, fire if you wish to carry out a dishonest deed against a defenseless prisoner. Shoot. I hope that you will not do this. But still I will not answer anything more than I have already answered.'

"When I then reported to Stalin about the Yelnya Operation, I told him about this prisoner as an illustration of just what the Germans were and with whom we would be dealing. It was important to know this and assess it clearly. Because this evaluation would inevitably become part of the calculations and plans. Such things must be taken into account both in assessing the enemy and in assessing one's own capabilities. In planning an operation, it is essential to assess the moral state, the level of discipline and skill of the enemy soldiers. Having underestimated all of this, it is easy to make mistakes and miscalculations."

In 1950, Zhukov spoke briefly about his appointment to Khalkhin-Gol, without going into details. Now he described this in greater detail. 'I went to Khalkhin-Gol in the following manner--I was told later how all this had come about. When we had suffered the first setbacks there in May-June, Stalin, in discussing this question with Voroshilov in the presence of Timoshenko and Ponomarenko, the then secretary of the Belorussian Central Committee, asked Voroshilov: 'Who is commanding the troops there, at Khalkhin-Gol?' 'Brig Cmdr Feklenko.' 'Well, who is this Feklenko? How is he doing there?' asked Stalin. Voroshilov said that he could not answer this question precisely as he did not know Feklenko and did not know what sort of person he was. Stalin involuntarily said: 'What is going on? Men are fighting and you have no idea who is fighting for you, who is commanding the troops? We must appoint someone else to rectify the situation and who is capable of acting with initiative. He must not only rectify the situation but if possible beat the Japanese.' Timoshenko said: 'I have a candidate, the commander of the cavalry corps, Zhukov.' 'Zhukov...Zhukov,' said Stalin. 'That name reminds

me of something.' Then Voroshilov reminded him: 'That is the same Zhukov who in 1937 sent you and me a telegram that he had been unjustly criticized in the party.' 'Well, how did it end?' asked Stalin. Voroshilov said that there were no grounds for party discipline.

"Timoshenko described me in good terms and said that I was a decisive man who could manage. Ponomarenko also confirmed that this was a good candidate for carrying out the set task.

"By this time, I was the deputy commander of the Belorussian Military District and was on a field trip in the district. I was summoned to the telephone and informed that on the next day I was to go to Moscow. I phoned Susaykov. At that time he was a member of the Belorussian District Military Council. It was the year 1939 and I wondered what this call meant? I asked him: 'Do you by chance know why I am being summoned?' He replied: 'I don't. I know one thing that in the morning you should be at Voroshilov's office.' 'Well, so be it!'

"I arrived in Moscow and was given the orders to fly to Khalkhin-Gol. I took off the next day.

"The initial orders were: 'Delve into the situation, report on measures taken and report your proposals.'

"I arrived, I analyzed the situation, I reported on the measures taken and also my proposals. On the same day I received two coded messages one after the other: the first that they approved the conclusions and the proposals. The second was that I instead of Feklenko had been appointed commander of the special corps in Mongolia."

In another conversation, also in the autumn of 1955, Zhukov took up the problems of his relations with the senior chiefs in the Khalkhin-Gol. I have already mentioned the responses to this from below, among his subordinates. Now Zhukov himself took this up:

"On the third day of our August offensive, when the Japanese were clinging to the northern flank on Palets Hill and things had slowed down, I had a talk with G.M. Shtern. Shtern was there and according to orders from above his role as the commander of the Transbaykal Front was to support our rear and provide the group which I commanded with everything necessary. In the event that military operations spread to other sectors, developing into a war, it was planned that our army group would be directly subordinate to the front. But only in that instance. In the meantime we were fighting independently and were directly subordinate to Moscow.

"Shtern came to me and began saying that he recommended that we not dig in, but rather stop, build up our forces over a period of 2 or 3 days for subsequent attacks and only after this continue the encirclement of the Japanese. He explained his advice by the fact that the operation had slowed down and we were suffering heavy losses, particularly in the north. I told him in reply to this that war is war and in it there cannot help but be losses

and these losses may be large, particularly when we are involved with such a serious and fierce enemy as the Japanese. But if we now, because of these losses and because of difficulties arising in the situation, defer for 2 or 3 days the fulfillment of our initial plan, one of two things will happen: either we will not carry out this plan at all or we will carry it out with a great delay and with enormous losses which because of our indecisiveness ultimately exceed by 10-fold those losses which we are suffering now, in acting in a decisive manner. In accepting his recommendations, we would increase our losses by 10-fold.

"Then I asked him was he ordering me or advising me? If he was ordering me, then let him write out a written order. But I cautioned him that I would protest this written order to Moscow, because I did not agree with him. He replied that he was not giving an order but recommending and would not write out a written order. I said: 'Then I reject your proposal. The troops are entrusted to me and I am in command of them here. You have been ordered to support me and ensure my rear. I request that you do not go beyond the limits of what you were assigned.' It was a harsh, nerve-wracking and not very pleasant talk. Shtern left. Then 2 or 3 hours later he came back having obviously consulted with someone during this time and told me: 'Well, so be it, you are right. I withdraw my recommendations'."

In another talk Zhukov touched upon certain difficulties which arose in the course of the fighting on the Khalkhin-Gol and which at first had caused a number of our setbacks, in talking about the reasons for the drama which unfolded in June 1939.

"Among other factors in our unpreparedness for war against the Germans a role was played by the territorial troop training system which we had actually given up only in 1939. Our territorial divisions were completely badly trained. The human materiel with which they were to be brought to full strength was poorly trained and had no idea of modern combat or the experience of cooperation with the artillery and tanks. In terms of the training level, our territorial units were nothing in comparison with regular units. I was involved with one such territorial division, the 82d, at Khalkhin-Gol. It had fled from several Japanese artillery volleys. It had to be halted by all available means, commanders had to be sent out from the command post at Khamar-Daba and form an extended line of them across the steppe. We barely stopped them. The division commander had to be removed and the division gradually, over a period of 6 weeks, was accustomed to military operations. Gradually we sent the men out on reconnaissance, into minor skirmishes, we got them used to artillery, to bomb strikes and taught them to cooperate with the tanks. Subsequently, having learned and gaining their first combat experience, the division at the end of August, in subsequent fightings, did not badly. But in July, it had fled. And for the Japanese who saw how it fled from several artillery rounds had merely to follow it. And we only succeeded in halting the Japanese by concentrating the fire of all available artillery from all points of the front against the enemy. That was a territorial division which had not undergone any schooling in combat. I experienced this there, on the Khalkhin-Gol..."

Zhukov also returned to Khalkhin-Gol in one other conversation. In it he was recalling not so much the events of those times as defining the place which Khalkhin-Gol held in his life and in his military biography:

"My first difficult experience in life involved the years 1937 and 1938. The appropriate documents were being readied for me and there were already enough of them and someone was already going somewhere with the briefcase in which they resided. Generally, things were going in such a manner that I could end up as many others had ended up. And then after this, the sudden summons and the orders to go to Khalkhin-Gol. I went there with joy. And after the conclusion of the operation I experienced great satisfaction. Not only because the operation had been carried out successfully and this was an operation which I still am fond of, but also because by my actions there I had proven myself and somehow thrown off all those accusations and slanders which had accumulated against me in previous years and which I had partially known and partially guessed. I was happy for everything: our success, the new military rank and the receiving of the title of Hero of the Soviet Union. All of this confirmed that I had done what was expected of me and that what they had previously endeavored to accuse me of was an obvious untruth.

"Of course, against the background of the subsequent events of the Great Patriotic War, the scale of the military operations on the Khalkhin-Gol seems small. Combat developed on a limited sector of 40-50 km, the size of the entire Japanese 6th Army Group did not reach 100,000 men and the number of Soviet and Mongolian troops participating in the fighting also did not reach this figure."

In truth, in the area of conflict, fighting on both sides were aviation forces that were large for those times, such that once in a talk with Zhukov I with some timidity said that later on, during the Great Patriotic War, I had not seen air battles in which such a large number of fighters fought in the air simultaneously on both sides as in Mongolia. And he, chuckling, answered: 'Do you think I saw this? I did not.' But even considering this, it must be said that the events on the Khalkhin-Gol still remained a major military conflict which did not develop into a major war.

However, the importance of these military actions in history was much greater than their immediate scale. The severe lesson gained by the Japanese Military Command on the Khalkhin-Gol had far-reaching consequences. During the first, hardest months of the war for us against the Germans, the still fresh memory of Khalkhin-Gol forced the Japanese military circles to show caution and to link the problem of their entry into a war against Russia with the capture of Moscow by the Germans. The importance of this is difficult for us to overestimate.

It is difficult to overestimate something else: on the Khalkhin-Gol we showed that for us words did not diverge from deeds and that our treaty of mutual aid with Mongolia was not a bunch of paper but rather an actual readiness to defend its frontiers as our own.

**Khalkhin-Gol was the start of Zhukov's biography as a military leader. Subsequently, he was to participate in events of immeasurably greater scope but this start in the distant Mongolian steppes was very promising.**

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## CERTAIN FEATURES OF PARTY POLITICAL WORK IN NATIONAL AIR DEFENSE TROOPS DURING GREAT PATRIOTIC WAR

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[Article, published under the heading "Party Political Work" by Col Yu.M. Belov: "Certain Particular Features in Party Political Work in the National Air Defense Troops During the Years of the Great Patriotic War"]

[Text] During the years of the Great Patriotic War, the National Air Defense Troops, having honorably carried out the tasks assigned to them, made a significant contribution to the victory over Nazi Germany. This was largely aided by effective party political work. As in the other Armed Services, this was based on the decisions of the party Central Committee and was aimed at indoctrinating the personnel in a spirit of the ideas of Marxism-Leninism, strengthening the political-moral state and discipline of the troops and ensuring their successful combat activities. Here consideration was given to the specific features of the tasks being carried out, the necessity of constant combat duty by diverse air defense forces, the uniqueness in the disposition of the units and subunits as well as the particular features of their manning.

Of great importance for improving party political work in the National Air Defense Troops was the measures adopted by the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee to establish and strengthen the political bodies and to improve the system of party and Komsomol organizations.

At the beginning of the Great Patriotic War, the National Air Defense Troops numbered 67 formations of ground branches of troops and 6 formations of fighter aviation and with political bodies in just 20 of them.(1) By April 1942, political bodies existed in virtually all the formations. With the formation of the corps and divisional air defense regions, the appropriate political sections were established. In the air defense fighter aviation, the number of political bodies rose by more than 3-fold in comparison with the start of the war. By this time there were 55 political sections functioning in the air defense formations.(2)

Subsequently, the system of this level of political bodies was expanded and its influence on the state of affairs in the troops constantly grew. By mid-

1943, it included 86 political sections of the various types of air defense formations, 93 by January 1944, and 116 by May 1945.(3) The VKP(b) Central Committee and the Main Political Directorate of the Soviet Army constantly saw to it that the political bodies being established were promptly manned with experienced political cadres, among whom were numerous workers from the local party and Komsomol organizations, the soviet and trade union bodies. Party political work was skillfully organized by the military corps commissars F.F. Verov, A.A. Ikonnikov and G.Yu. Pevzner, the military commissars and chiefs of the divisional and regimental political sections M.I. Cherkas, P.P. Telegin, N.L. Khodyrev, I.Z. Biryukov and many others.(4)

Leadership over party political work in the air defense units markedly improved with the formation of the political sections in the antiaircraft, searchlight and VNOS [aircraft warning] regiments. Primary party and Komsomol organizations with the rights of shop organizations were established in the divisions and battalions. This helped to turn the batteries and equal subunits into centers of party political work and made it possible to accept soldiers into the party directly in the regiments as well as draw up the party and Komsomol documents.

With the abolishment of the positions of deputy company commanders for political affairs in May 1943, the role of the subunit party organizations increased further. Now the party aktiv of the companies and batteries which, as a rule, had been active far away from the unit political bodies and party-political apparatus became the most important assistant of the commanders in mobilizing the men to carry out the battle tasks, in increasing the political and combat activeness of each communist and indoctrinating all the personnel.

The subunit party organizations were joined by communists who had been called up both under the general and special mobilizations for the National Air Defense Troops. However, the chief source in strengthening the party organizations of the air defense subunits and units was the admission to the party of soldiers and commanders who had distinguished themselves in fighting the enemy. The VKP(b) Central Committee, in considering the conditions under which the party organization of the National Air Defense Troops operated as well as the difficulties related to admission to the party and prompt issuing of the party cards, by the decree of 15 July 1941, permitted "the questions of party admission in the air defense units to be reviewed and resolved at sessions of the primary party organization bureau and approved by the party commission of the formation, in bypassing the meeting of the primary party organization...."(5)

In the air defense fighter air units, the number of communists was increased by recruiting leading pilots and technicians as well as men from other leading specialties. Thus, the party organization of the 123d Fighter Air Regiment from January through October 1942 admitted 27 of the best specialists as party members and 55 as candidate members. From this time communists made up more than 70 percent of all the personnel, a true combat vanguard which led the others. By October 1942, pilots from the unit had made 5,276 combat sorties, carried out 265 air battles and downed 148 enemy aircraft.(6) The regiment became one of the first in the National Air Defense Troops to become a guards unit.

The proportional amount of communists in the National Air Defense Troops by the end of the war reached 24 percent, while at the outset it equaled 4.5 percent.(7) The strengthening of the party organizations to a significant degree had contributed to ensuring a high level of organizational and ideological indoctrinational work in the air defense units and had an enormous impact on the combat results.

One of the main tasks of the National Air Defense Troops during the war years was the defense of major administrative-political and industrial-economic centers of the Soviet Union such as Moscow, Leningrad, Baku, Gorkiy, Stalingrad, Kuybyshev and others. This involved up to 75 percent of all the fighter air forces and medium-caliber antiaircraft guns.(8)

The main efforts of the political bodies, the party and Komsomol organizations were aimed at indoctrinating in the personnel a sense of responsibility for dependable air defense of objectives of state importance, and mobilizing the men to maintain the constant combat capability of their unit and subunit. The personnel was urged to show vigilance and a readiness at any time to engage the enemy. This was particularly important because the enemy at one moment reduced the combat activities of its aviation in the aim of dulling the vigilance of the air defense troops and then initiated mass raids.

The questions of combat readiness and vigilance were systematically reviewed at the meetings of the party aktiv, the party organizations, the meetings of communists and various categories of command, political and engineer-technical personnel, at seminars of the party activists and in all forms of mass agitation and propaganda work. For example, the meetings of the party aktiv of the X Rostov Air Defense Fighter Corps and the 106th and 144th Fighter Air Divisions were devoted to the effectiveness of party political work in ensuring high combat readiness.(9) In all the squadrons and companies of the 1st Air Defense Fighter Army, upon instructions of the political section, party meetings were conducted with the agenda "On the Tasks of the Party Organization in Raising Combat Readiness and Revolutionary Vigilance." At a seminar for political workers from the 329th Antiaircraft Artillery Regiment, they discussed the question "Political Support for Constant Combat Readiness of the Subunit."(10)

In political exercises which in a majority of the air defense units began to be held regularly from July-August 1941, upon instructions of the political bodies, along with general political subjects they studied the special ones: "The Time Factor in the Air Defense Troops," "Master Your Weapons," "Responsibility to the Motherland for the Safety of the Defended Installation Rests on the Air Defense Troops," "Be a Master of Your Job" and others.

The mass agitation measures helped to develop in the personnel a high sense of responsibility for the air defense of the major state objectives and a profound awareness of their political and military-strategic importance. Particularly important work was carried out to mobilize the air defense troops to provide a dependable defense of Moscow. Such prominent party and state leaders as M.I. Kalinin, D.Z. Manuilskiy and Ye.M. Yaroslavskiy spoke in the units defending the capital. Their ardent, penetrating speeches left a

profound effect on the men and inspired them to show heroism, steadfastness and self-sacrifice in the fight against the Nazi invaders. Of great indoctrinal significance was the congratulatory speech of M.I. Kalinin to those decorated for successfully repelling the first massed raid on Moscow: "Defend Moscow like the apple of your eye. The defense of our capital in this war is of enormous international and political significance. Hit the enemy so that all the air defense troops follow your example."(11)

The appeals which contained high praise for the combat activities of the air defense troops evoked a great patriotic upsurge in the men. In speaking at meetings and party and Komsomol gatherings, they vowed to defeat the enemy at any price. In August 1941, communists from the 120th Fighter Air Regiment in a decision of the party meeting stated: "We, the members and candidate members of the VKP(b), will make every effort so that the enemy does not reach Moscow. We consider it an unswerving law that not a single vulture should escape from a communist and Komsomol member."(12)

Effective forms of party political work were employed in the air defense units defending Leningrad and included: propagandizing of the revolutionary traditions of Lenin's city, the heroism of its inhabitants, and talks were given on the subjects "Leningrad--A City of Russian Glory," "Vengeance for the Wounds of Leningrad," "Revenge for the Death of Comrades Fallen in Battle," and others.

The maintaining of constant combat readiness of the air defense forces over an extended period was a difficult task if it is considered that the men had to be constantly waiting for an enemy air attack and in a state of extended alertness and under great physical and mental stress. The work of ensuring the vigilant standing of alert duty demanded initiative, activeness and purposefulness from the command, the political bodies and party organizations.

The commanders and political workers constantly reminded the personnel of the perfidiousness and cleverness of the enemy and propagandized examples of irreproachable alert duty as well as skillful and self-sacrificing actions to repel enemy raids. At one of the meetings of the personnel of the 8th Battery from the 193d Antiaircraft Artillery Regiment (I Air Defense Corps), for example, they pointed out the courageous action of the communist and loader V. Gulenkov. Regardless of a concussion, he did not leave his gun and continued to precisely perform his duties until the end of battle during which an enemy aircraft was downed.(13)

Effective party political work helped to develop in the air defense personnel high moral-combat qualities, and indoctrinate a will for victory, loyalty to the socialist fatherland and to military duty. On the first day of the war, the fighter pilots P. Ryabtsev, D. Kokorev, L. Butelin and S. Gudimov rammed enemy aircraft. The most complicated types of midair rams were also executed by air defense pilots: V. Talalikhin and P. Yeremeyev at night, A. Katrich at a high altitude, M. Rodionov in a low altitude flight and V. Uskov from in front dropping onto the tail of the enemy aircraft. Some of the first Heroes of the Soviet Union in the Great Patriotic War were pilots from the 158th Air Defense Fighter Regiment, S. Dvorovtsev, M. Zhukov and P. Kharitonov, who each

downed several enemy aircraft and S. Dvorovtsev and M. Zhukov by ramming attacks.

Active work in propagandizing midair ramming made their frequent repetition quite natural. According to the last data, the air defense pilots employed this method of air combat over 140 times. As a total during the years of the Great Patriotic War, Soviet pilots made over 600 ramming strikes.(14) Among the winged knights who employed rams, 95 percent were communists and Komsomol members.

An essential feature of party political work in the Air Defense Troops was brought about by their active involvement in the major operations of the Soviet Army. The effective activities of the commanders and political workers in instructing the personnel in combating the ground enemy and in indoctrinating the men in steadfastness on the defensive and decisiveness and activeness on the defensive helped in carrying out the set combat missions. In the fighting at Moscow, the Air Defense Troops destroyed 450 tanks, 250 artillery and mortar batteries and almost 50,000 enemy soldiers and officers; at Leningrad the figures were 99 tanks, 136 artillery and mortar batteries and up to 3 regiments of enemy infantry; at Stalingrad, 175 tanks, around 40 batteries and 11 enemy infantry regiments.(15)

The successes of the pilots, antiaircraft gunners, searchlight operators, VNOS troops in combating the completely-prepared enemy which was armed with up-to-date aircraft for those times were based upon the high combat skill of the personnel and this was achieved due to the constant and painstaking work of the commanders, the political workers and the party organizations which mobilized the personnel to master the new equipment constantly received by the National Air Defense Troops. This question was particularly urgent for the military aviators. They had to master new aircraft and weapons simultaneously with carrying out their main missions. This required significant efforts of an organizational and indoctrinal nature from the political bodies, the political workers and the party organizations. They participated in working out the combat training plans and programs and in conducting technical and flight-tactical conferences, combat training firing and reviews of weapons and tactical training, and took measures to ensure the vanguard role of the communists and Komsomol members in studying the combat equipment and mastering it.

A great deal was done by the commanders, the political bodies and the party organizations in preparing the personnel for nighttime combat. During this time of the day, enemy aviation showed particular activity from the very outset of the war. The first raids against Moscow and Leningrad were conducted precisely at nighttime and out of the total of 122 raids made by enemy bombers against Moscow in 1941, only 32 were made during the day and then with heavy cloudiness.(16) The men of the Leningrad Air Defense Army over the war repelled 272 air raids against the city, including 79 daytime ones.(17) A large number of night raids was also made against other objectives.

With the active participation of the political bodies and party organizations in the fighter air units they carefully prepared and conducted flight-

technical conferences on the questions: "Fighter Operations Under Nighttime Conditions Without Illumination of the Target," "Particular Features of Pilot Actions in the Searchlight Field," "The Search for and Destruction of Bombers at Night" and others.

Serious attention was given to improving the night skills of the pilots, for example, in the VI Fighter Air Corps and in the 101st and 106th Fighter Air Divisions. Upon the assignment of the regimental party bureaus, the communists explained to the personnel the requirements of the instructional documents regulating flight service. They regularly organized meetings of the aviators with the searchlight operators, antiaircraft gunners and VNOS troops where they thoroughly discussed the questions of cooperation. The party organizations were concerned that the drills, the exercises with the staff officers and the joint exercises of the air and searchlight units be carried out as effectively as possible. All of this made it possible to raise the combat skills and teamwork of the personnel. While on 1 January 1943, in the air defense fighter aviation only 20.8 percent of the pilots had been trained for nighttime combat, on 1 January 1945, their number had reached 52.7 percent.(18)

An essential feature of party political work in the National Air Defense Troops in the course of the war was determined by the involvement of women in serving in them. By mid-1943, young women comprised 37 percent of the troop personnel.(19) Individual units and subunits were completely staffed by servicewomen.

Questions related to the political indoctrination, everyday life and material support for the female fighters and the organizing of combat training for them were discussed at service meetings of the commanders, the political workers and rear officers. The political bodies systematically analyzed the work with the women and generalized and disseminated advanced experience. For example, delegate meetings, conferences and special-subject evenings conducted on the scale of the formation, unit or garrison proved effective. The military and labor feats of our motherland's women were widely propagandized and lectures given on the subjects: "On Communist Morality and Uprightness," "Hygiene of the Female Soldier" and others.

Women adjusted to army conditions comparatively quickly and showed exceptional tenacity in mastering military specialties and many soon became experts in their job.

The political bodies and party organizations actively involved the female personnel in sociopolitical life. In the Leningrad Air Defense Army, for example, courses were organized on training women as political workers of the inferior and middle levels. Around 13 percent of the total number of the political personnel in the National Air Defense Troops at the end of the war was female political workers.(20) The female soldiers were agitators, the editors of wall newspapers and combat leaflets as well as regular and volunteer heads of libraries and they took an active part in amateur artistic activities. Their service in the air defense units brought vitality into social work and improved the everyday routine of the personnel. The courage

and heroism shown by many servicewomen in repelling air raids served as an example of imitation.

The experience of organizing party political work in the National Air Defense Troops in the Great Patriotic War has not lost its importance today. It contains much that is instructive and useful for the commanders, political workers and party aktiv in their activities in mobilizing the air defense troops to vigilantly stand alert duty, to master modern equipment and improve tactical skills. A study and introduction of this are of important significance for increasing the effectiveness of party political work and the combat readiness of the troops.

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19. Ibid., folio 72, inv. 12310, file 972, sheet 56.
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## CROSSING MIXED MINEFIELDS

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[Article, published under the heading "Local Wars" by Lt Col I.I. Belyayev, candidate of technical sciences: "The Crossing of Mixed Minefields"; the article was written from materials in the foreign press]

[Text] In the local wars started by the United States and its allies one can note a growing scale of employing mixed minefields. In the Korean War (1950-1953) the crossing of mixed minefields was carried out both during its maneuvering stage and its positional stage.

The distinguishing features of the employment of obstacles by both sides in the first stage of the war were: the setting of individual groups of mines on roads, the mining and destruction of road structures and which was caused by the mountainous nature of the terrain and by the shortage of engineer ammunition. Under these conditions, engineer reconnaissance of enemy obstacles in the course of offensive actions by the Korean People's Army (KPA) was conducted by sweeps of engineer reconnaissance groups as well as by the use of deep reconnaissance groups.(1)

The successful employment of the deep reconnaissance groups was aided by the good knowledge of local conditions and the enemy's lack of a solid defensive front. Such groups always included combat engineers. In individual instances, reconnaissance of the obstacles was carried out by engineer subunits independently.

The crossing of obstacles in the course of an offensive and in pursuing enemy troops was supported by the forces of TOE combat engineers from the KPA infantry divisions as well as by subunits of engineer troops attached to them and these operated, as a rule, on individual axes and advanced in the battle formations of the battalions or in individual instances the first-echelon companies.

The aggressor troops widely employed obstacles under the conditions of the protracted defensive actions of the last period of the war. Here chief attention was given to antipersonnel mixed minefields and nonexplosive obstacles. The latter were based upon wire fences and coils. Other types of

nonexplosive obstacles were also actively employed such as hedgehogs, knife rests and hidden wire obstacles.(2) The antipersonnel mixed minefields were employed to cover the approaches to the nonexplosive ones and sometimes independently.

With the retreat of the aggressor, its combat engineer subunits mined the roads or created rock obstacles on them and also frequently employed booby traps.

With the transition of the American Army to the mass employment of mixed minefields and mined nonexplosive obstacles, the need arose to create clearing groups in the assaults. Such groups were particularly widely employed in the positional stage of the war.(3)

It is essential to point out that during the offensive actions of the belligerents in the first stage of the war, the subunits of engineer troops cleared roads and terrain and also made passages in the obstacles by hand. The antipersonnel mines were removed by combat engineers, as a rule, at night. In the course of pursuing the retreating enemy, particularly crucial military sectors of roads, bridges and fords underwent engineer reconnaissance and mineclearing.

For the KPA the task of crossing obstacles arose particularly acutely in the second stage of the war in conducting operations to breach the enemy's strong positional front. Under the given conditions, one of the way for effecting the aggressor's troops was to organize constant nighttime assaults by assault group forces.(4) In the first-echelon infantry divisions of the KPA, from three to six such groups were organized consisting of from a company to an infantry battalion. In this instance the subunits of the engineer troops acted as mineclearing groups. They made passages in the minefields and at the same time provided reinforcement on the lines in the capturing of enemy strongpoints.

The tasks of crossing the obstacles were also carried out by the aggressor troops. The employment of all types of obstacles by the KPA troops assumed a mass nature when they went over to the defensive. Subunits of engineer troops began to set obstacles not only ahead of the forward edge but also in the tactical depth on individual sectors. The minefields were, as a rule, of a mixed type. For this purpose they employed antitank and antipersonnel mines, land mines, stone fougasses and booby traps. In addition, they employed antitank pits, one-way tank traps, log barriers, abatis and wire obstacles.(5) Here, in the opinion of foreign military specialists, the most effective were the combined wire obstacles which consisted of two or three separate rows of wire fences reinforced with wire, loose barbed wire and wire coils.

The aggressor reconnoitered the obstacles using combat engineers fighting as part of the combined-arms reconnaissance and sometimes independently. Here the search for the obstacles included an immediate examination, ground observation and photographing. Data of air reconnaissance was widely employed, primarily aerial photography.

In the course of an offensive, the subunits of the American engineer troops were included in the forward detachments or fought in the battle formations of the first-echelon battalions. They were given the tasks of reconnoitering and clearing the routes of the troops. Induction mine detectors and probes were the basic means of reconnaissance. However, this equipment did not ensure the rapid search for mixed minefields.

The American Command gave great attention to engineer reconnaissance and the crossing of the obstacles during combat aimed at breaching the KPA defenses. In such instances, the main efforts were concentrated on supporting the actions of the assault groups. The engineer subunits included in these groups usually made passageways through the obstacles by hand, in widely employing smokescreens and utilizing artillery neutralization of the firing positions covering the obstacles.(6) Here the making of passages through their own minefields ahead of the forward defensive edge was carried out, as a rule, one or two nights before the start of the offensive. In individual instances, this was carried out by combat engineers of the interventionists using the explosive method and mineclearing Bangalore torpedoes. The passages through the antitank minefields on tank terrain were made using tank-mounted bulldozers.

In the course of breaching a positional defense, the combat engineers mounted on the head close support tanks also conducted reconnaissance and made passages. Here the infantry battalion used as the forward detachment was reinforced by one or two combat engineer platoons. Strong attacks were also made by bomber aviation and artillery against the detected mixed minefields. However, this required a significant expenditure of ammunition. In such instances the engineer subunits from the support groups were employed for completely eliminating the mixed minefields.

During the war in South Vietnam, the tasks of crossing obstacles arose in the conduct of punitive operations by the American troops and in the course of offensive actions by the People's Liberation Armed Forces (PLAF).

The use of mixed minefields by the belligerents as military operations got underway assumed a mass nature. Roads and paths in the jungles were mined on all the nation's territory, man-made structures on roads were destroyed and troop concentration areas, positions, bases and airfields were covered by mixed minefields.(7)

In the American troops, the main tasks of engineer support for the offensive by the tactical groups in the punitive operations were: engineer reconnaissance of the terrain for mining, the crossing of obstacles in moving up units and subunits to the area of forthcoming operations, reconnaissance and crossing of obstacles in the course of deploying the battle formations for assaulting the PLAF strongpoints.(8)

Engineer reconnaissance of the terrain for mining was carried out by deep reconnaissance groups, by reconnaissance patrols and groups reinforced by engineer subunits. These were assigned directly from the operating tactical groups.

In the American troops great attention was given to reconnaissance and crossing of obstacles in moving up the troops from the concentration areas to the areas where the punitive operations were to be conducted. For this purpose the forward detachment was assigned a strong engineer-reconnaissance patrol (group) with the simultaneous incorporation of combat engineers as part of the side patrols. The organizing of the patrol's actions was as follows. From the basic core of the engineer-reconnaissance patrol, they assigned tanks with mounted road rippers. These moved in front on the flanks of the group some 30-40 m from the side of the road and parallel to it (along with sides). The ripper dug up the ground to a depth of 0.6 m (with a sweeping speed up to 16 km per hour), and cut the control line for the land mines set on the roadway. At the same time the antipersonnel land mines and fragmentation mines were activated under the tank tracks and from the effect of the ripper. Sometimes they employed rippers mounted on tractors. In such instances tanks moved in front and these detonated the antipersonnel mines.(9)

Following behind at a distance of 30-50 m with an interval of 20-25 m were three staggered mineclearing groups with probes and mine detectors. The end of the engineer-reconnaissance patrol was brought up by a fourth mineclearing group which made a final reconnaissance of the detected mixed minefields and destroyed the mines and land mines by pressure charges. Each group included up to six soldiers. They swept with two mine detectors, two probes, explosive charges and detonating devices.(10) It should be pointed out that the pace and effectiveness of carrying out the tasks involved in clearing the routes, in the opinion of foreign specialists, remained extremely low due to the abundance of interference-generating metal objects which impeded the work, the high mining skills achieved by the patriotic forces which widely employed false minesetting, as well as the poor technical capabilities of the mine detectors used by the American engineer troops.

From the materials of the foreign press, other equipment is known for reconnoitering and crossing obstacles and employed in South Vietnam which became an unique testing ground for the American aggressors. Here they tested out roller and cam mine sweeps which were reminiscent of a road roller and a road mine detector mounted on a 0.25-ton jeep. The detector device of the latter covered an area 1.8 m wide and provided a detection rate of around 16 km an hour. Such a mine detector was remote controlled from a distance of up to 300 m and had a stop device in detecting a mine and in activating the detector system.(11)

Another method was also widely employed for testing important highways for mining. In a column of vehicles returning to the base of the tactical group, as the tail vehicles were tar-spreaders, vehicles with tanks filled with liquid asphalt, tar. In flowing out of the spreader, it formed on the roadway parallel strips a distance of 7-8 cm apart with a total coverage up to 3 m. These strips were clearly visible during the day and poorly visible at night. A reconnaissance and mineclearing group checked the state of these strips on the road visually before the tactical group set out. In the event of the disturbance of the integrity of the strips, suspicious places were checked by mine detectors and with the detection of mines were cleared.(12)

During an offensive against the well-equipped and mine-defended strongpoints of the patriots, in the forming-up places of the companies and battalions, as a rule, they organized reconnaissance and clearing groups. These made passages manually or by employing pressure explosive charges.

With the actions of separate tank-infantry groups, the making of passages through antitank obstacles was entrusted to the head tanks. The engineer subunits assigned to the tank-infantry groups carried out the tasks of testing and widening the passages and also made passages through the antitank obstacles.(13)

Engineer reconnaissance and the crossing of obstacles in the course of offensive actions by aeromobile groups after their landing were conducted, as a rule, using the same methods as in supporting the ground punitive operations. The only feature was that the engineer subunits employed aerotransportable equipment.

Foreign military specialists have commented on the high effectiveness of "mine warfare" under the conditions of South Vietnam. Regardless of the adopted measures, American troops suffered significant losses from the mixed minefields. For example, just during the first period of the war, the 1st American Infantry Division suffered the following losses in personnel and equipment: 22.4 percent of the total losses from mines and 10 percent from booby traps. As a whole, the losses from this method of warfare in the American troops was up to 40 percent of the total losses.(14)

Engineer reconnaissance and the crossing of obstacles were carried out by the PLAF troops in the course of the surprise attacks against the aggressor's strongpoints and bases. In preparing for offensive actions, particular attention was paid to engineer reconnaissance of the aggressor's obstacles and the fire cover weapons.

Direct reconnaissance of the objectives of such attacks was carried out by special reconnaissance groups which included the commanders of the engineer subunits. The clearing of the mixed minefields with the moving up of the troops to the objective of the attack was carried out manually by engineer subunits which were assigned to the head subunits of the detachment or group.

Assault groups were assigned for supporting the direct breakthrough into the territory of the objective being attacked and these groups included engineer subunits (mineclearing subgroups) with the task of making passageways through the enemy obstacles.

In the concluding stage of the war, the PLAF troops widely employed outflanking groups and infiltration groups for launching surprise attacks against objectives in the aggressor's tactical rear. With the engineer support for these actions, the main tasks were engineer reconnaissance of the terrain for mining and the making of passageways through the enemy obstacles. These tasks were carried out, as a rule, by engineer subunits. However, infantry subunits often conducted reconnaissance and mineclearing independently, since their training included the compulsory study of the procedures for crossing enemy obstacles.

Of great interest is the practice of crossing obstacles in the 1973 Arab-Israeli War. In the course of the offensive by Egyptian and Syrian troops, this question arose particularly acutely in resolving the problem of engineer support for breaching the deeply echeloned defenses of the Israeli Army.

Here the main tasks were: engineer reconnaissance of the enemy's system of obstacles and their crossing in the course of combat. One of the distinguishing features in the organizing of the obstacles in the course of combat was the extensive use of nonexplosive obstacles reinforced by mixed minefields. For example, in the area of the Golan Heights, engineer subunits from the Israeli Army dug an antitank pit 4.5 m wide and 2.5 m deep. This pit had, in addition, a brow composed of fill and up to 3 m high and was reinforced with deep minefields.(15)

Engineer reconnaissance of the obstacles was conducted by the Egyptian and Syrian troops both by observation by engineer observation posts as well as by sweeps by reconnaissance groups. In a number of instances the combined combat engineers and scouts operated as troop reconnaissance bodies.

In breaching the defenses of the Israeli troops, great importance was given to making passageways through the enemy mixed minefields and nonexplosive obstacles and supporting the actions of the assault groups. Passageways through their own minefields were made during the night before an offensive manually by engineer subunits and these were also responsible for organizing and standing traffic control service.(15)

For making passages through enemy obstacles in the course of the offensive of the Egyptian and Syrian troops, mineclearing groups were organized (one group for each first-echelon company). These were equipped with mineclearing bangalore torpedoes and these were transported by minesweeping tanks to the minefield from the concentration areas. The passageways in the enemy minefields were widened manually by mineclearing groups using explosive charges. A large portion of the passageways in the enemy minefields ahead of its forward edge was made manually, since the employment of minesweeping tanks in the sandy terrain, as has been pointed out in the foreign press, was ineffective.(17)

In the course of offensive actions, the Israeli troops crossed obstacles along passageways made also manually or employing mineclearing bangalore torpedoes.

Operation Cooporate which was carried out by the English troops in the course of the Falkland Conflict (1982) showed the great importance of engineer support for combat actions, in particular, engineer reconnaissance and the crossing of obstacles. The English troops had to cross obstacles both in the amphibious landings as well as the assaults on and capture of the Argentine troops strongpoints and garrisons.

It should be pointed out that the Argentine troops widely employed the setting of antipersonnel minefields, including by helicopter. The difficult terrain conditions and its engineer organization required the allocating of English engineer subunits in such a manner that each advancing battalion was given an

engineer platoon or at least an engineer reconnaissance group (usually a squad). (18)

For example, large mixed minefields reinforced the defensive area to the west of Port Stanley. Under these conditions, the patrol (reconnaissance) groups consisting of one infantry squad and one combat engineer squad, ahead of time, before the start of the English troop offensive, reconnoitered the passageways in the obstacles or cut them by hand at night. Western military observers have emphasized that 90 percent of the tasks in reconnoitering and cutting passageways through the enemy minefields were carried out by the English combat engineers between 0300 and 0400 hours at night. Mine detectors and probes as well as army knives from small arms were employed as engineer reconnaissance equipment. The successful carrying out of this task was largely aided by the fact that the English troops possessed information about the Argentine obstacles on the individual defensive sectors. (19)

An analysis of the experience of local wars indicates that in line with the wider scale of employing man-made obstacles, particularly mixed minefields, the tasks of crossing them are becoming a major problem for engineer support of troop combat.

Reconnaissance and the crossing of obstacles have been carried out both in the course of the advance, the offensive actions and pursuit of the enemy as well as in breaching its fortified zones and positions as well as in conducting sweep and punitive operations.

Reconnaissance of man-made obstacles has been carried out not only by engineer reconnaissance but also all types of reconnaissance. The system for reconnoitering the obstacles provided cooperation among all types of reconnaissance in the aim of achieving effectiveness in the assessment of the mine situation in the combat area. The basic amount of tasks involved in reconnoitering the obstacles was carried out by the engineer troops. Here the engineer reconnaissance bodies were incorporated in the forward and raid detachments, the assault groups as well as in the first echelon subunits and units. Engineer reconnaissance of the obstacles in supporting actions deep in the enemy defenses or in pursuing it, as a rule, was combined with the cutting of passages and the passage of troops through the enemy obstacles. The engineer subunits in carrying out the tasks of reconnoitering the mine obstacles basically employed induction mine detectors and probes which did not completely correspond to the rate of advance of the troops.

The crossing of obstacles included the cutting of passageways through the obstacles, clearing the routes of advance and maneuver of the troops as well as solid mineclearing of the terrain. In individual instances, for cutting passageways through mixed minefields, mineclearing Bangalore torpedoes were employed as well as tanks equipped with minesweeps and bulldozer equipment.

The cutting of passageways through obstacles in the course of moving up and an offensive was carried out by engineer subunits incorporated in the first echelon subunits and acting as mineclearing groups. Here the passageways in friendly minefields in preparing to breach the enemy defenses were cut, as a rule, one or two nights before the offensive. Subsequently, on the passages

they organized a traffic control service in the aim of nonstop and safe passage of the troops.

The employment of air bombing and artillery fire for making passageways through the mixed minefields, as foreign military reviewers feel, was not widespread as a consequence of their low effectiveness.

As a whole, in the opinion of foreign military specialists, the experience of the local wars of the postwar period has shown that the skillful carrying out of the tasks of reconnoitering and crossing obstacles in the course of military operations is an important component in the over-all success and has a decisive impact upon the course and outcome of the battles (operations) of the belligerents.

#### FOOTNOTES

1. MILITARY ENGINEER, No 389, 1967, pp 186-187.
2. "Dnevnik boyevykh deystviy v Koreye za period s 26 iyunya 1950 g. pl 15 oktyabrya 1953 g." [Combat Diary in Korea for the Period from 26 June 1950 Through 15 October 1953], Translation from the English by the VNU from the Journal JOURNAL OF ROYAL UNITED SERVICE INSTITUTION, 1950-1953, pp 142-145.
3. Ibid., pp 142-148.
4. MILITARY ENGINEER, No 389, 1967, pp 186-187.
5. Ibid., p 187.
6. Ibid., No 389, 1969, pp 186-187.
7. Ibid., No 391, 1967, pp 332-336; No 392, 1967, pp 404-408; No 396, 1968, pp 256-261; No 399, 1969, pp 7-8, 16-20.
8. ARMOR, No 3, 1968, pp 5-11.
9. TECHNISCHE MITTEILUNGEN FUR SAPPEURE, PONTONEURE UND MINEURE, No 3, 1971, pp 133-136.
10. Ibid., pp 139-141.
11. Ibid.
12. Ibid., p 142.
13. INFANTRY, No 1, 1969, pp 39-40.
14. TECHNISCHE MITTEILUNGEN FUR SAPPEURE, PONTONEURE UND MINEURE, No 3, 1971, pp 121-125.

15. ARMY DIGEST, No 12, 1967, pp 7-21; KAMPF TRUPPEN, No 6, 1978, p 266.
16. WEHRKUNDE, No 2, 1974, p 77; SOLDAT UND TECHNIK, No 11, 1976, p 214.
17. TRUPPENDIENST, No 5, 1983, pp 514-520; ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 8, 1982, p 26.
18. TRUPPENDIENST, No 5, 1983, pp 504-513.
19. Ibid., p 512.

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## NAVY OFFICER TRAINING DURING GREAT PATRIOTIC WAR

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[Article by Capt 1st Rank N.I. Rybak, candidate of naval sciences: "Training of Officer Personnel for the Navy During the Years of the Great Patriotic War"]

[Text] The network of naval schools (vmuz) established in the prewar years made it possible to meet the needs of the developing Navy for officer personnel considering normal times. By the beginning of the 1940s training for commanders, engineers and political workers was conducted in 12 schools, at the Higher Special Courses and in two academies.(1)

The Great Patriotic War made significant changes in the activities of the vmuz. During the first weeks, a whole series of new problems arose: the providing of faculty and a student body caused by their curtailment and replacement; the organizing and training of early officer graduating classes; the revising of the training plans and programs and the introduction of new forms of instruction in the training process considering combat experience and the requirements of the Navy and the land fronts; the relocating of certain vmuz from the frontline areas and ensuring their operation in the new place. The aim of the given article is to show how these problems were resolved under the difficult war time.

During the war years, the question of staffing the vmuz was particularly acute, since a significant portion of the faculty and students had left for the front. Thus, by 15 July 1941, the active troops received 2,500 men from the personnel of the Leningrad naval schools. Subunits and units were also constituted and these consisted completely of school personnel (officer candidate) and these were involved in the fiercest fighting. As a total during June-November 1941, 7,600 students from the schools were fighting on the land fronts.(2)

In line with this the schools felt an acute shortage of permanent personnel. Thus, on 21 February 1942, in all the naval schools they lacked 367 officers and more than 700 civilian employees and this caused significant difficulties in carrying out the training process.(4) For example, the average workload per instructor increased. While in the prewar years this was 16-20 hours a

week, during the period of the war it was 30 hours (at the Pacific Higher Naval School imeni S.O.Makarov for certain disciplines it exceeded 40 hours). Individual chairs of the schools were only 50 percent manned and only 29 percent of the officers had teaching experience of over 5 years.(5)

Yet even under these conditions, the administration of the vmuz, the school command, the party and soviet bodies on the spot endeavored to constantly improve the training process. For conducting exercises on general education subjects they called in faculty from the civilian institutions of learning. Later on (1943), officers having instructor and commander experience began returning from the active units and formations to the schools. Thus, senior instructors D.P. Belobrov, V.A. Satkevich, A.P. Belobrov, B.I. Umnov, B.A. Zarin and others returned to the VVMKU [Higher Naval Command School] imeni M.V. Frunze.

Substantial difficulties also arose over the new recruitment of officer candidates. The reduced number of applicants lowered the opportunities for their selection and was a reason for the decline in the quality of the admitted classes. The vmuz switched to a system of recruiting the student body by using quotas from the military districts and fleets. An important role was played by the special naval schools and the preparatory courses organized under the vmuz as each year these trained over 14 percent of the first-year students for the naval schools.(6) An insignificant number of officer candidates enrolled in the schools under individual recruitment.

The need for officer personnel forced early graduation. This applied first of all to the secondary schools (political, medical, shore and air defense and administrative) which trained officers predominantly for the shore units. Sometimes initial officer ranks were awarded ahead of time directly in a combat situation. For example, in the officer cadet battalion of the Naval Shore Defense School imeni LKSMU, the rank of junior lieutenant was granted to all second-year cadets after repelling the attack of the enemy pushing toward Sevastopol. This occurred on 17 November 1941 in the combat positions at Mekenziya Farm. During the first year of the war this school trained 452 officers of whom 334 were trained according to a shortened program.(7) From July through October 1941, the vmuz held 32 early graduations and this made it possible to send 3,621 officers into the operational fleets. The command schools alone during the first 7 war months trained 3,917 commanders in a similar manner.(8) The training plans here were worked out in such a manner as to provide thorough training for a specialist in 1-1.5 years with a focus on instilling practical skills. Thus, out of the 4,400 hours during the entire period of instruction, around 2,800 hours went to practice exercises and training practice. Particular attention was paid to special training and tactics.(9) In the Higher Naval Special Courses, the length of training was just 5 months. Here chief attention was also given to practical types of instruction by a substantial reduction in the number of lecture exercises. For an extended time no provision was made for ship experience and only from the end of 1942, when the total period of instruction was increased up to 6 months, was a month-long voyage on ships introduced.(10)

The vmuz were also confronted with the task of training personnel for the newly constituted naval rifle brigades. This was carried out largely by

preparing early graduations. In the aim of manning 25 naval rifle brigades, the VMUZ in 1941 trained 1,858 young officers. As a total during the war, they sent 8,656 of their graduates to the land fronts.(11)

The reform in the officer training system, the actual need for personnel as well as the acquired combat experience necessitated the incorporation of appropriate changes in the training plans and programs of the VMUZ. Initially everything came down to adjustments which were carried out in accord with the instructions of the People's Commissar of the Navy and the head of the VMUZ. In 1942, the planning documents in all the naval schools underwent a thorough reworking. A special month-long training was introduced following the program of the ground schools and as a result of taking this the graduates gained knowledge and practical skills needed to perform the duties of a rifle platoon commander. The training plans for the secondary naval schools ceased to include the general educational disciplines. Military topography and the tactics of rifle subunits and units were studied in all the command schools. The program was significantly broadened for the employment of the ship armament against shore, sea and air targets as well as for studying the new artillery systems. The programs for communications equipment and observation were supplemented by sections requiring the study of new equipment and guideline documents for organizing signals in the fleet, the ground troops and aviation in the aim of ensuring their cooperation. The program for torpedo weapons envisaged the study of magnetic and towed mines and new models of depth charges. The section on ship damage control was more complete. Thus, in exercises on the history of naval art and tactical training, the officer candidates studied the experience of cooperation of the fleet and ground troops in the defense of naval bases. In exercises on the combat employment of torpedoes by submarines, a new method of firing was examined, timed ripple firing.(12)

A major role was played by the "Instructions on the Organization of the Training Process" approved by the People's Commissar of the Navy on 14 October 1942.(13) This emphasized that the graduates should have a perfect knowledge of the theoretical bases of their specialty, employ the weapons and equipment expertly, train and indoctrinate subordinates and skillfully direct the actions of the personnel in combat. The document required that in giving lectures, the principle of demonstration be observed, that is, that they employ the materiel of the weapons and equipment, mock-ups and stands, that the material be given sequentially, clear statements be provided for the main concepts and conclusions, that oversimplification not be permitted and the possibility of outlining be provided. It was categorically prohibited to dictate the lectures and the emphasis was placed on independent work. For the first time, the Instructions established uniform organizational documents for planning the training process. These included: the training plan with the appropriate schedule for the entire training period, the training programs and a weekly schedule of exercises.

The introduction of the recommendations and requirements of the Instructions significantly improved the training process and made it more organized and informative. In a majority of instances lectures began to be given in continuous series and in the practical exercises the classrooms were split up into groups. The number of subjects studied in 1 day did not exceed 3. In

the training process chief attention was devoted to practical exercises which included: solving problems and making calculations, seminars, graphic work, observations, experiments, the servicing of weapons and equipment, tactical games and group exercises and swimming practice. In participating in naval combat cruises, the officer candidates performed the duties of petty officers and officers. Graduating exams were also conducted on the ships.(14)

In the aim of improving the quality of training for officer personnel during 1942, upon the decision of the People's Commissar of the Navy, the length of instruction was gradually extended. Thus, at the air defense school the period of instruction for signal troops and artillery troops increased from 1 year to 2 years.(15)

In May 1942, a new "Regulation Governing Naval Schools" was issued.(16) It raised the basic tasks for the institutions of learning in the area of training the personnel, and it clarified the organizational structure and main areas for planning the training process as well as the duties of the commanders and instructors. According to this document, scientific (training) councils were to be established. These would include the chief of the school (the council chairman), his deputies, the chiefs of the chairs, the senior instructors from the individual disciplines, the chief of the training section, the chiefs of the courses (faculties), the chiefs of the scientific research section and the medical service.

The council reviewed all aspects of the school's activities. Its basic tasks were: a review of questions related to the organizing of the training process, training methods and indoctrination of the officer candidates; discussion of the training, annual and semester plans and programs as well as the reports of responsible officials on the different areas of activity of the school's collective; the introduction into the training process of the experience of employing naval forces in the Great Patriotic War and the combat training of the fleets and flotillas as well as other questions.(17) During the war years, the scientific council of the Higher Naval Engineer School imeni F.E. Dzerzhinskiy was given the right to accept candidate dissertations for defense. At the Higher Naval Engineer-Technical School, where 64 doctors and candidates of science were serving and working, the council accepted for defense dissertations for the academic degree of doctor and candidate of sciences. During the period of the war this school trained 7 doctors of science and 17 candidates of science.(18)

Leadership over the activities of the naval schools from January 1938 was provided by the directorate of vmuz (headed by the chief of the vmuz). In February 1941, a regulation governing this body was introduced. The directorate consisted of three sections, three departments, a naval school committee and an inspectorate. Up to the end of the Great Patriotic War its organizational structure and functions did not undergo any substantial changes.(19)

The Directorate of vmuz provided leadership over the naval institutions of learning and together with the Naval Personnel Directorate worked out a system for training officer personnel for the front. Its functions included: coordinating training, methodological, scientific-research and editorial-

publishing activities, determining the period of instruction for officer candidates and the focus of their training and indoctrination, the elaboration and approval of the vmuz TOE, the training plans and programs as well as the inspecting of subordinate schools. With the outbreak of the war, the range of tasks carried out by it was enlarged. The vmuz directorate drew up the manning schedules for the officer candidate subunits and units and the staffing of the naval rifle brigades being constituted with petty officer and officer personnel. Here they worked out plans for relocating the naval schools and also generalized combat experience for incorporation in the training process.

The Naval Training Committee was a consultative body under the chief of the vmuz, and its membership included permanent members approved by the order of the People's Commissar of the Navy. Representatives of fleet formations, units and institutions were invited to individual sessions of the committee. Thus, in May 1943, when the vmuz directorate was examining the question of a further improvement in the training system for officer personnel, the chiefs of the schools and the workers from the Navy Personnel Directorate participated in the discussion of this problem.(20)

In carrying out the task of training officer personnel, the vmuz maintained close ties with the active fleets. This was aided by the carrying out of military history and scientific research work aimed at improving the weapons and equipment as well as elaborating the most effective procedures for their employment.

The chairs were the main centers for the training and indoctrination of the officer candidates. They conducted educational-methods, indoctrinal and scientific-procedural work, and carried out measures to develop and improve the training facilities. The chairs regularly held procedural conferences, instructional-procedural, demonstration and test exercises, they organized reciprocal visiting by exercise instructors and they worked out and discussed training-procedural aids and documents.

In order that the needs and requirements of the Navy be taken into account in training the specialists, the naval schools strengthened their ties with the staffs of the fleets and formations. Thus, the faculty of the Pacific Higher Naval School participated in the meetings of the fleet leadership for various specialties and was present at tactical games and exercises. The school instructors systematically gave lectures and reports to the command personnel of the Pacific Fleet as well as the officers of the formations and units. The tours of duty for the instructors on the fighting ships and in the units played an important role in improving their tactical and special knowledge.

The close ties with the formations and units widened the opportunities for carrying out effective scientific research by the chairs and helped in writing more informative teaching aids and textbooks for the officer candidates and students. For example, the instructors and students of the Higher Naval Special Command Courses in a short period of time prepared 28 procedural aids and recommendations which in 1942-1944 were introduced into practice on the ships and in the units.(21) The Military Engineer Technical School conducted research on a number of urgent tasks set by the command of the Leningrad

Front. On the basis of the data obtained at the school, calculations were run and designs developed for floating bridges and special sleds were designed for moving heavy tanks across the Neva. Upon the request of the Hydrographic Directorate, an analytical and practical clarification was made for stresses in loaded icefields and this was of extremely important significance in organizing traffic across Lake Ladoga under winter conditions.(22)

A particular problem during the war years was the relocating and supporting the activities of the vmuz which had been evacuated to the rear. Among those which changed their location were the following naval schools: the Higher Naval School imeni M.V. Frunze (Astrakhan, Baku); the Naval Shore Defense School imeni LKSMU (Lenkoran, Tankhoy Station, Vladivostok); the Navy Air Defense School (Strelna, Engels, Tambov, Taganrog); the Higher Special Courses (Astrakhan, Samarkand) and others.(23)

As a rule, the relocation was carried out in an organized manner, regardless of the difficult conditions and short period of time. For example, the order for moving the Black Sea Higher Naval School imeni P.S. Nakhimov was received on 16 July 1941, and on 4 August, the personnel and property of the school were already at their new destination. The moving of the Higher Engineer-Technical School was carried out quickly and precisely. But at times, because of the situation, the time of the move was drawn out. On 7 December 1941, on the basis of the Decree of the People's Commissariat of the Navy, they began evacuating from Leningrad the Naval Administrative School. The personnel which had been split up into several groups had to make their way to Yefimovskaya Station (by foot and in vehicles) across Ladoga, Novaya Ladoga and the Pashskiy Ferry. The 400 km of this route was covered in just 15 days. The end destination (Moscow) was reached by all the school personnel only on 2 January 1942.(24)

At the new location the command of the vmuz was confronted with acute problems: housing the personnel and the training facilities; equipping classrooms, laboratories and training offices; replenishing the training facilities with the essential equipment and various property; organizing the training process. Both these and other questions were resolved in close contact with the local party and soviet bodies, and due to this the vmuz resumed activities in a short period of time. Thus, in December 1941, the Higher Engineer-Technical School, having moved to Yaroslavl, set up there in the quarters of the fleet barracks. Regardless of the limited material and technical capabilities, the training process had resumed after a week. Later on, a portion of the equipment was transported from Leningrad for the classrooms and laboratories. They also employed the training facilities of the schools of the city and industrial enterprises.

Regardless of the efforts of the command and the local party soviet bodies, it was not always possible to organize the necessary training conditions at the new place. The building of the Soviet Cooperative Trade Institute which had been turned over in Moscow to the Naval Administrative School was practically unsuitable not only for exercises but also for housing. Two weeks went for reconstruction. The officer candidates were forced to sleep in their greatcoats and hats. On 15 January, exercises commenced. In the lecture rooms where there still was no heating, they also kept on their greatcoats.

They wrote in pencil as ink froze.(25) In 1943, the Coastal Defense School imeni LKSMU was temporarily housed in the buildings of the Pacific Higher Naval School, crowding the students of the latter. The crowded situation forced them to organize classrooms and labs in the sleeping areas and even on stairway landings.(26)

It also happened that the new location had to be moved. In October 1941, the Higher Naval School imeni F.E. Dzerzhinskiy moved to the settlement of Pravdinsk, Gorkiy Oblast. The exercises were held in the rooms of a secondary school, and a local club was adapted as a residential building. In the spring of 1942, the school moved to Baku where it occupied the buildings of the naval and railroad technical schools and part of the structures of an industrial institute.

The system organized in the prewar years for training personnel for the Navy as a whole proved effective also under the harsh wartime conditions, providing the navy units and ground troops with officers of different specialties. Here it showed its strength and flexibility. The difficult situation, although disrupting the activities of the vmuz, still could not halt them. Moreover, the training process was constantly improved and as a result of this the tasks for training officer personnel for the Navy were completely carried out. Thousands of commanders and political workers who had graduated from the Navy schools in combat demonstrated high organizational abilities, political maturity, professional skill and total dedication to the motherland and made a worthy contribution to achieving victory over the enemy.

Under present-day conditions, when a reorganization is being carried out in our nation in higher and specialized secondary education, the experience of training personnel for the Navy during the years of the Great Patriotic War can be employed for improving the quality of training for military affairs specialists.

#### FOOTNOTES

1. TsGA VMF [Central State Archives of the Navy], folio 7, inv. 1, file 1008, sheet 14.
2. TsVMA [Central Navy Archives], folio 4, inv. 1, file 146, sheet 96.
3. [Not in text]
4. Ibid., file 215, sheet 2.
5. Ibid., sheet 46.
6. Ibid., file 318, sheet 13.
7. Ibid., folio 1095, inv. 28126, file 14, sheet 186; folio 4, inv. 5876, file 8, sheet 14.
8. Ibid., folio 4, inv. 1, file 215, sheet 2; file 318, sheet 10.

9. Ibid., inv. 5876, file 8, sheet 17.
10. Ibid.
11. Ibid., inv. 1, file 215, sheet 2; folio 243, file 34716, sheet 333.
12. Ibid., folio 4, inv. 1, file 318, sheet 21; file 215, sheets 16-17.
13. Ibid., file 179, sheet 43.
14. Ibid., folio 172, file 6116, sheet 3.
15. Ibid., folio 4, inv. 1, file 318, sheet 21.
16. Ibid., folio 79, file 36862, sheet 7.
17. Ibid., sheets 8-9.
18. Ibid., folio 4, inv. 5876, file 7, sheet 4.
19. Ibid., inv. 21, file 1, sheet 1.
20. Ibid., folio 172, file 4114, sheet 27.
21. "Vyshhiye ofitserskiye: Kratkiy istoricheskiy ocherk" [Higher Officer Courses: Concise Historical Essay], Leningrad, Izd. VOK (Higher Officer Classes), 1969, p 104.
22. TsVMA, folio 4, inv. 1, file 186, sheet 36.
23. Ibid., folio 172, file 6121, sheet 8.
24. G.G. Polyakov, "Morskoy kursantskiy batalon" [Naval Officer Candidate Battalion], Leningrad, Lenizdat, 1985, pp 147-153.
25. Ibid., p 155.
26. "V boyevom stroyu: Ocherki istorii TOVVMU imeni S.O. Makarova" [In Battle Formation: Essays on the History of the Pacific Higher Naval School imeni S.O. Makarov], Vladivostok, Izd. TOVVMU, 1967, p 64.
27. TsVMA, folio 4, inv. 1, file 125, sheets 1, 6.

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1942 CHRONICLE: JANUARY--DECEMBER

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 6, Jun 87 (signed to press 25 May 87) pp 89-90

[A Chronology, published under the heading "The Chronicle of the Organizational Development of the Soviet Armed Forces," prepared by I.M. Nagayev, senior science associate of the Central State Archives of the Soviet Army: "1942 (January--December)"]

[Text] 28 January--Hq SHC [Headquarters Supreme High Command] issued a directive for reorganizing (by 8-10 February.--Ed.) the Caucasus Front into the Crimean Front and the Transcaucasian Military District.

1 February--By the Directive of Hq SHC the Western Sector (Second Constitution.--Eds.) was established.

26 February--The 1942 Field Manual of the Red Army Antiaircraft Artillery was put into effect.

5 March--The long-range bomber aviation was changed into the long-range aviation (ADD) and subordinate to Hq SHC.

18 March--A new TOE for a rifle division was adopted. Its fire power was increased.

1 April--The TOE of a tank corps was introduced.

5 April--The GKO [State Defense Committee] adopted a decree on transforming the Moscow Air Defense Corps Region into the Moscow Air Defense Front, while the Leningrad and Baku Air Defense Corps Regions became, respectively, the Leningrad and Baku Air Defense Armies.

21 April--Hq SHC issued a directive for establishing (on 26 April.--Ed.) the Northern Caucasus Sector and combining (as of 23 April.--Ed.) the Leningrad and Volkov Fronts into the single Leningrad Front.

26 April--The GKO adopted a decree for putting the Main Directorate of the Civil Air Fleet under the commander of the Soviet Army Air Forces.

28 April--Hq SHC issued a directive for renaming (as of 1 May.--Ed.) the Transcaucasian Military District as the Transcaucasian Front.

3 May--By the Directive of Hq SHC the Western Sector (Second Constitution.--Ed.) was eliminated.

5 May--The USSR People's Commissar of Defense issued an order for establishing the air armies of fronts.

8 May--The decree of the GKO was adopted on constituting the guards mortar (rocket) regiments and separate guards mortar [rocket] battalions.

15 May--The GKO adopted a decree on constituting 18 artillery antitank regiments.

19 May--Hq SHC issued a directive for transforming (as of 20 May.--Ed.) the Northern Caucasus Sector into the Northern Caucasus Front. The Crimean Front was abolished.

--The GKO decree was adopted on the organizational strengthening of the rear bodies and improving supply for the Soviet Army.

20 May--The Ukase of the Presidium of the USSR Supreme Soviet was promulgated on striking the Order of the Patriotic War 1st and 2d Degrees.

21 May--By the Ukase of the Presidium of the USSR Supreme Soviet guards military ranks were introduced for servicemen of the guards units and formations of the Soviet Army and Navy.

30 May--The GKO decree was adopted on establishing the Central Partisan Movement Staff (TsShPD) under Hq SHC and partisan movement staffs under the military councils of certain sectors and fronts.

8 June--By the directive of Hq SHC, the Leningrad Front was split into the Leningrad and Volkov Fronts.

21 June--Hq SHC issued a directive for eliminating (as of 23 June.--Ed.) the Southwestern Sector.

7 July--By a directive of Hq SHC the Bryansk Front was split into the Bryansk and Voronezh Fronts.

12 July--Hq SHC issued a directive for eliminating the Southwestern Front and the establishing of the Stalingrad Front.

14 July--A directive was announced on the distinguishing features of wounds for servicemen of the Soviet Army and Navy on the fronts of the Great Patriotic War.

26 July--The GKO approved a decree on the constituting of 35 antitank artillery regiments.

27 July--A new TOE was introduced for the rifle division. Its combat capabilities were increased.

26 July--Hq SHC issued a directive on disbanding the headquarters of the Southern Front and combining its troops with the Northern Caucasus Front.

29 July--The Ukase of the Presidium of the USSR Supreme Soviet was published concerning the striking of the Orders of Suvorov, 1st, 2d and 3d Degree, Kutuzov 1st and 2d Degree and Aleksandr Nevskiy.

31 July--The Northern Defense Region was established for defending Rybachiy and Sredniy Peninsulas.

5 August--By the directive of Hq SHC, the Stalingrad Front was split into the Southeastern and Stalingrad Fronts.

17 August--The Novorossiysk Defensive Region was established.

18 August--The Novaya Zemlya Naval Base was established.

22 August--The Tuapse Defensive Region was established.

26 August--The USSR SNK [Council of People's Commissars] adopted a decree on establishing the position of deputy supreme commander-in-chief.

--The USSR People's Commissar of Defense issued an order on constituting the air corps of the RVGK [Reserve of the Supreme High Command].

31 August--Hq SHC issued a directive on the reconstituting (by 5 September.--Ed.) of the Stalingrad Military District as the Field Headquarters of the 28th Army.

1 September--By a directive of Hq SHC, the Northern Caucasus and Transcaucasian Fronts were combined (by 4 September.--Ed.) into the single Transcaucasian Front.

8 September--The TOE of a mechanized corps was introduced.

28 September--Hq SHC issued a directive on forming the Stalingrad and Don Fronts from, respectively, the Southeastern and Stalingrad Fronts.

--The GKO decree was adopted on transforming the partisan movement staffs into agencies of the TsShPD on the fronts.

9 October--The Ukase of the Presidium of the USSR Supreme Soviet was promulgated on establishing full one-man command and abolishing the institution of military commissars in the Soviet Army. On 13 October this ukase was extended to the Navy.

22 October--Hq SHC issued a directive for establishing (by 31 October.--Eds.) the Southwestern Front (Second Constitution.--Ed.).

9 November--The Red Army Infantry Field Manual, Part 1 (soldier, squad, platoon, company) and 2 (battalion, regiment) was introduced.

10 December--The TOE of a guards rifle division was introduced.

21 December--By the Ukase of the Presidium of the USSR Supreme Soviet a new model of the Red Banner was established for the troop units of the Soviet Army.

22 December--The Ukase of the Presidium of the USSR Supreme Soviet was published on striking the medals "For the Defense of Leningrad," "For the Defense of Odessa," "For the Defense of Sevastopol" and "For the Defense of Stalingrad."

30 December--Hq SHC issued a directive on forming (as of 1 January 1943.--Ed.) the Southern Front and the Abolishment of the Stalingrad Front.

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